LG

COLOR MONITOR

SERVICE MANUAL

CHASSIS NO. : CA-120

FACTORY MODEL: CB553H

MODEL: StudioWorks 500E (CB553H-ML)
StudioWorks 500G (CB553H-AL)
StudioWorks 500N (CB553H-ZL)

CAUTION

BEFORE SERVICING THE UNIT,
READ THE **SAFETY PRECAUTIONS** IN THIS MANUAL.

CONTENTS

SPECIFICATIONS 2
SAFETY PRECAUTIONS 3
TIMING CHART 4
OPERATING INSTRUCTIONS 5
WIRING DIAGRAM 6
BLOCK DIAGRAM 7
DESCRIPTION OF BLOCK DIAGRAM..... ..8
ADJUSTMENT 9
TROUBLESHOOTING GUIDE 11
EXPLODED VIEW..... 21
REPLACEMENT PARTS LIST 23
PIN CONFIGURATION..... 28
SCHEMATIC DIAGRAM..... 30
PRINTED CIRCUIT BOARD..... 32

SPECIFICATIONS

1. PICTURE TUBE

Size : 15 inch (Flat Square Tube)
Deflection Angle : 90°
Neck Diameter : 29.1 mm
Dot Pitch : 0.28 mm
Face Treatment : AR-ASC (Anti-Reflection and Anti-Static Coating)
AG(Anti-Glare)
Low Radiation : MPR-II, NON MPR II

2. SIGNAL

2-1. Horizontal & Vertical Sync
1) Input Voltage Level : Low= 0~1.2V, High= 2.5~5.5V
2) Sync Polarity : Positive or Negative

2-2. Video Input Signal
1) Voltage Level : 0 ~ 0.7 Vp-p
a) Color 0, 0 : 0 Vp-p
b) Color 7, 0 : 0.467 Vp-p
c) Color 15, 0 : 0.7 Vp-p
2) Input Impedance : 75 Ω
3) Video Color : R, G, B Analog
4) Signal Format : Refer to the Timing Chart

2-3. Signal Connector
15-pin D-Sub Connector (Attached Type)

2-4. Scanning Frequency
Horizontal : 30 ~ 54 kHz
Vertical : 50 ~ 120 Hz

3. POWER SUPPLY

3-1. Power Range
AC 100~240V (Free Voltage), 50/60Hz, 2.0A Max.

3-2. Power Consumption

MODE	H/V SYNC	POWER CONSUMPTION	LED COLOR
NORMAL (ON)	ON/ON	less than 63 W	GREEN
STAND-BY	OFF/ON	less than 15 W	ORANGE
SUSPEND	ON/OFF	less than 15 W	
OFF	OFF/OFF	less than 5 W	ORANGE

4. DISPLAY AREA

4-1. Active Video Area :
• 285 x 215 mm (11.22" x8.46") - Max Image Size
• 270 x 200 mm (10.63" x 7.87") - Preset Image Size
4-2. Display Color : Full Colors
4-3. Display Resolution : 1024 x 768 / 60Hz (Non-Interlace)
4-4. Video Bandwidth : 65 MHz

5. ENVIRONMENT

5-1. Operating Temperature: 0°C ~ 40°C (Ambient)
5-2. Relative Humidity : 10%~ 90% (Non-condensing)
5-3. Altitude : 3,000 m

6. DIMENSIONS (with TILT/SWIVEL)

Width : 356.0 mm (14.01")
Depth : 396.0 mm (15.55")
Height : 371.0 mm (14.60")

7. WEIGHT (with TILT/SWIVEL)

Net Weight : 11.5 kg (25.3 lbs)
Gross Weight : 13.7 kg (30.14 lbs)

SAFETY PRECAUTIONS

SAFETY-RELATED COMPONENT WARNING!

There are special components used in this color monitor which are important for safety. ***These parts are marked ⚠ on the schematic diagram and the replacement parts list.*** It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

CAUTION: No modification of any circuit should be attempted.
Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

SAFETY CHECK

Care should be taken while servicing this color monitor because of the high voltage used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

FIRE & SHOCK HAZARD

An isolation transformer must be inserted between the color monitor and AC power line before servicing the chassis.

- In servicing, attention must be paid to the original lead dress specially in the high voltage circuit. If a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
- All the protective devices must be reinstalled per the original design.
- Soldering must be inspected for the cold solder joints, frayed leads, damaged insulation, solder splashes, or the sharp points. Be sure to remove all foreign materials.

IMPLOSION PROTECTION

All used display tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage and scratching during installation. Use only same type display tubes.

X-RADIATION

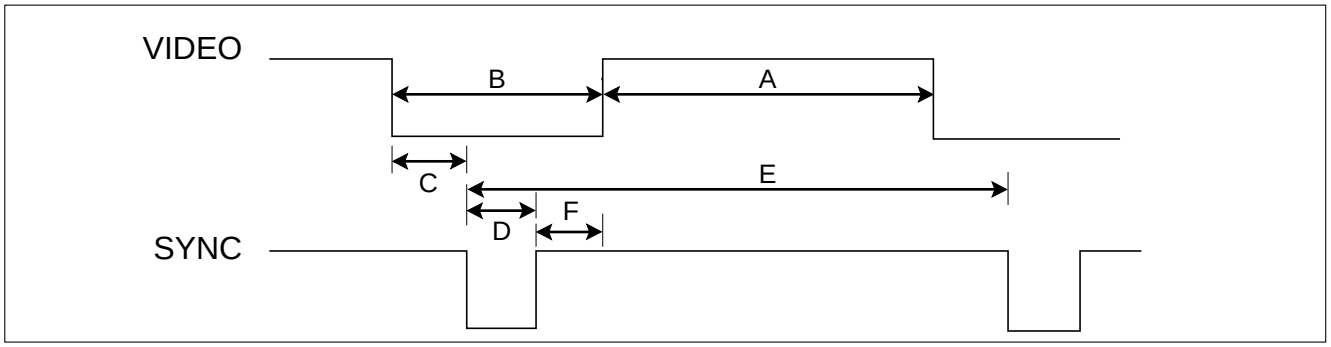
The only potential source of X-radiation is the picture tube. However, when the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. The basic precaution which must be exercised is keep the high voltage at the factory recommended level; the normal high voltage is about 24.5kV. The following steps describe how to measure the high voltage and how to prevent X-radiation.

Note : It is important to use an accurate high voltage meter calibrated periodically.

- To measure the high voltage, use a high impedance high voltage meter, connect (–) to chassis and (+) to the CDT anode cap.
- Set the brightness control to maximum point at full white pattern.
- Measure the high voltage. The high voltage meter should be indicated at the factory recommended level.
- If the meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-radiation possibility, it is essential to use the specified picture tube.

CAUTION:
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

TIMING CHART

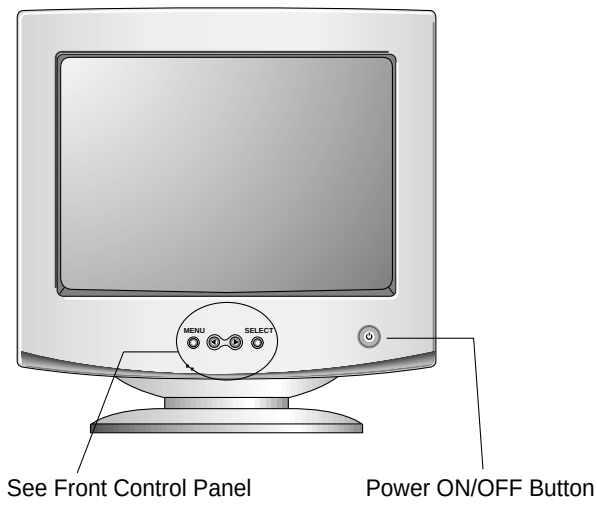


<< Dot Clock **(MHz),** Horizontal Frequency **(kHz)**, Vertical Frequency **(Hz)**, Horizontal etc... **(µs)**, Vertical etc... **(ms) >>**

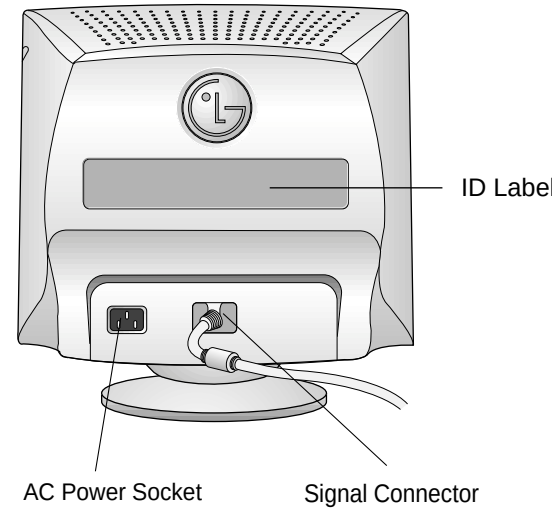
Mode	H/V Sort	Sync Polarity	Frequency	Total Period (E)	Video Active Time (A)	Blanking Time (B)	Sync Duration (D)	Back Porch (C)	Front Porch (F)	Resolution
1	H	–	31.47	31.78	25.42	6.36	3.81	0.64	1.91	**640x480 60Hz**
	V	–	59.94	16.684	15.254	1.430	0.063	0.318	1.049	
2	H	+	37.50	26.67	20.32	6.35	2.03	0.51	3.81	**640x480 75Hz**
	V	+	74.99	13.335	12.802	0.533	0.080	0.026	0.427	
3	H	+	48.363	20.667	15.574	4.923	2.092	0.369	2.462	**1024x768 60Hz**
	V	+	60.004	16.666	15.880	0.786	0.124	0.062	0.600	
4	H	+	53.68	18.63	14.22	4.41	1.14	0.57	2.70	**800x600 85Hz**
	V	+	85.07	11.755	11.178	0.577	0.056	0.018	0.503	

OPERATING INSTRUCTIONS

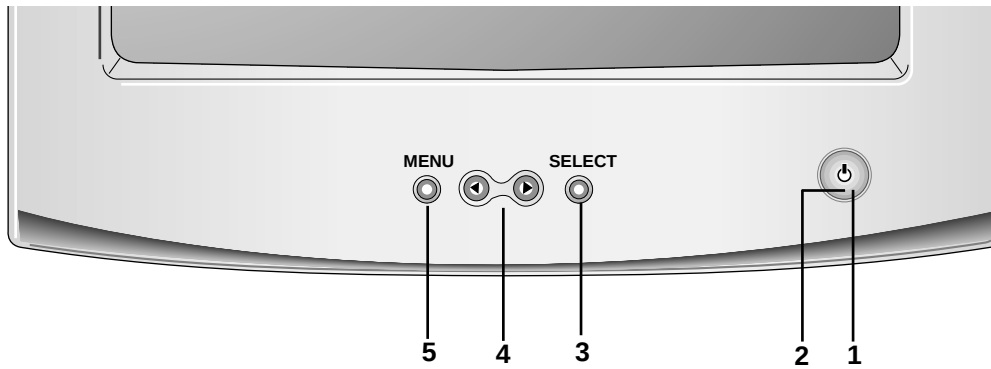
FRONT VIEW



REAR VIEW



Front Control Panel



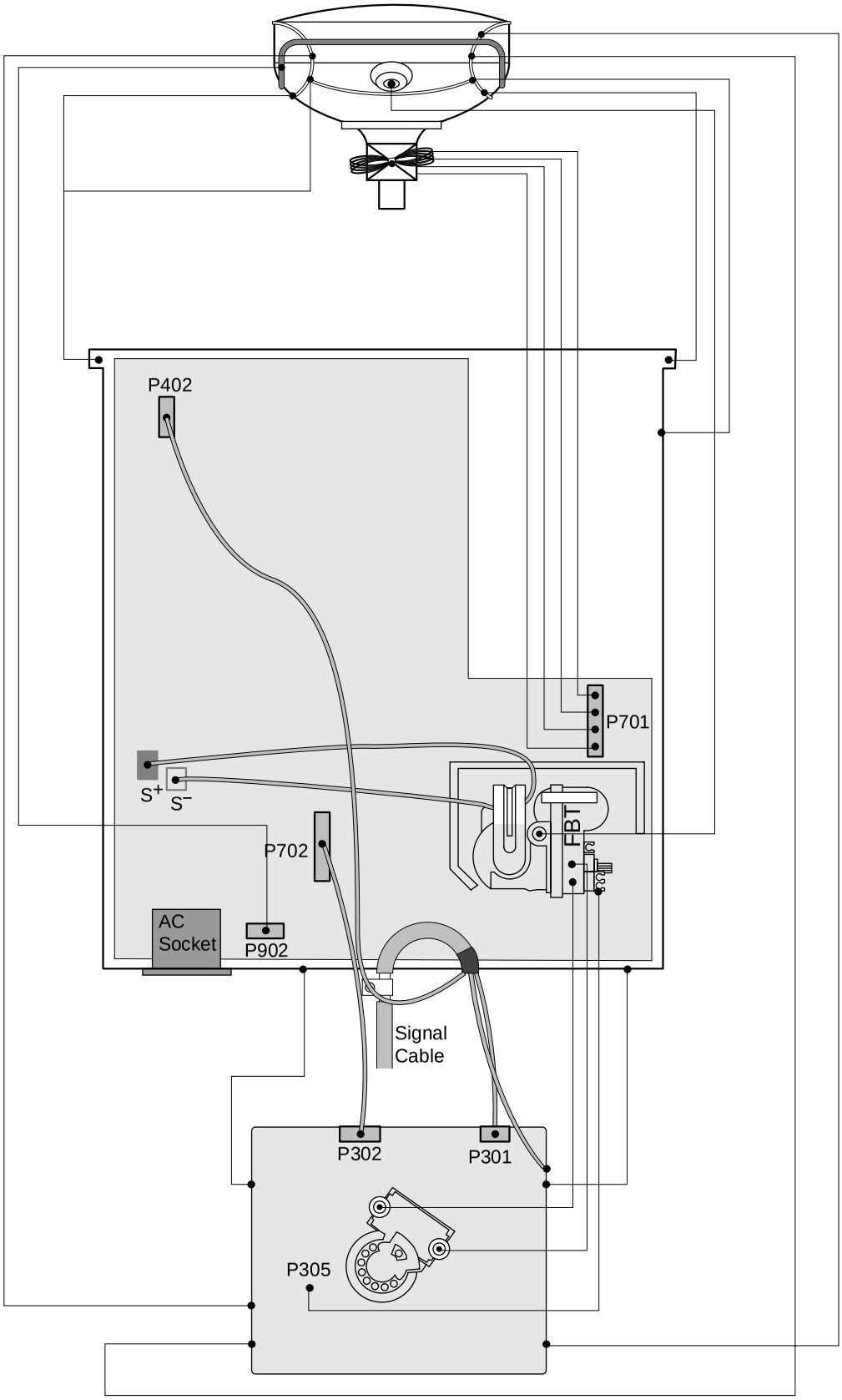
1. Power ON/OFF Button
Use this button to turn the monitor on or off.

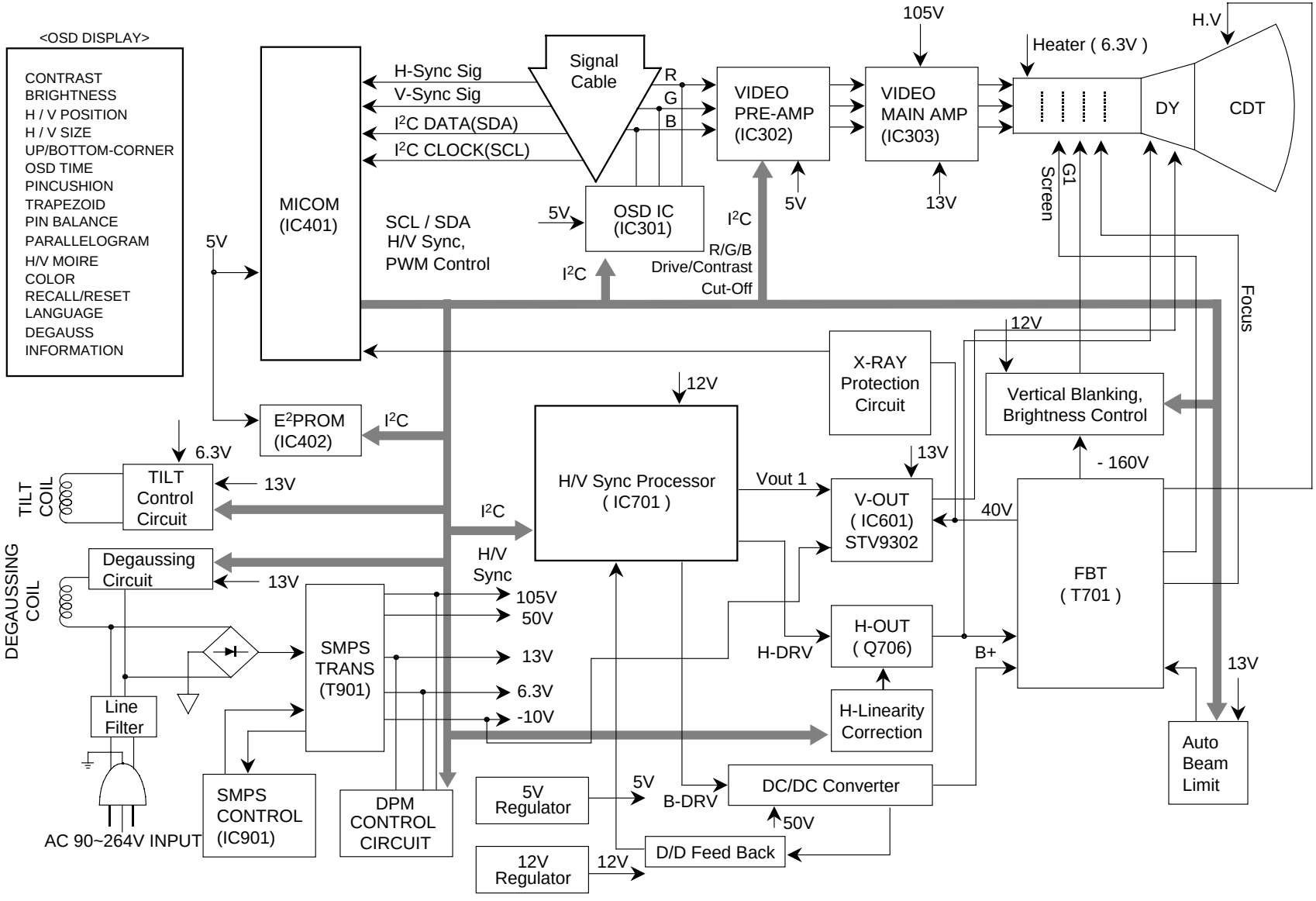
2. Power Indicator
This indicator lights up green when the monitor operates normally; in DPMS (Energy Saving) mode, - stand-by, suspend, or power off mode - its color changes to orange, and if abnormal or damaging circuit turns out orange blink.

3. SELECT Button
Use this button to enter a selection in the on screen display.

4. SET Button
Use these buttons to choose or adjust items in the on screen display.

5. MENU Button
Use this button to enter or exit the on screen display.


P402
P701
S+
S−
P702
FBT
AC
Socket
P902
Signal
Cable
P302
P301
P305


<OSD DISPLAY>
CONTRAST
BRIGHTNESS
H / V POSITION
H / V SIZE
UP/BOTTOM-CORNER
OSD TIME
PINCUSHION
TRAPEZOID
PIN BALANCE
PARALLELOGRAM
H/V MOIRE
COLOR
RECALL/RESET
LANGUAGE
DEGAUSS
INFORMATION
MICOM (IC401)
H-Sync Sig
V-Sync Sig
I²C DATA(SDA)
I²C CLOCK(SCL)
Signal Cable
R
G
B
VIDEO PRE-AMP (IC302)
VIDEO MAIN AMP (IC303)
105V
Heater (6.3V)
H.V
DY
CDT
Screen
G1
Focus
5V
OSD IC (IC301)
SCL / SDA
H/V Sync,
PWM Control
I²C
R/G/B
Drive/Contrast
Cut-Off
13V
12V
X-RAY Protection Circuit
Vertical Blanking, Brightness Control
E²PROM (IC402)
6.3V
TILT COIL
TILT Control Circuit
H/V Sync Processor (IC701)
Vout 1
V-OUT (IC601) STV9302
40V
- 160V
FBT (T701)
Degaussing Circuit
DEGAUSSING COIL
H/V Sync
105V
50V
SMPS TRANS (T901)
13V
6.3V
-10V
H-DRV
H-OUT (Q706)
B+
H-Linearity Correction
Line Filter
AC 90~264V INPUT
SMPS CONTROL (IC901)
DPM CONTROL CIRCUIT
5V Regulator
B-DRV
DC/DC Converter
50V
12V Regulator
D/D Feed Back
Auto Beam Limit

DESCRIPTION OF BLOCK DIAGRAM

1. Line Filter & Associated Circuit

This is used for suppressing noise of power input line flowing into the monitor and/or some noise generated in the monitor flowing out through the power input line.
That is to say,this circuit prevents interference between the monitor and other electric appliance.

2. Degaussing Circuit Coil.

The degaussing circuit consists of the degaussing coil, the PTC(Positive Temperature Coefficient) thermistr (TH901), and the relay(RL901). This circuit eliminate abnormal color of the screen automatically by degaussing the shadow mask in the CRT during turning on the power switch.When you need to degaussing in using the monitor,select DEGAUSS on the OSD menu.

3. SMPS(Switching Mode Power Supply).

This circuit is working of 90~264V AC(50/60Hz).
The operation procecedure is as below:

1) AC input voltage is rectified and smoothed by the bridge diodes(D900) and the capacitor.
2) The rectified voltage(DC) is applied to the primary coil of the transform(T901).
3) The control IC(IC901) generates switching pulse to turn on and off the primary coil of the transformer (T901) repeatedly.
4) Depending on turn ration of the transformer,the secondary voltage appear at the secondary coils of the transformer(T901).
5) These secondary voltage are rectified by each diode (D941,D951,D961,D971,D942) and operate other circuit.(horizontal and vertical deflection,video amplifer,...etc.)

4. X-ray Protection Circuit

When the high voltage reaches to 29kV in an abnormal state), voltage of IC401(MICOM) pin 35 come to about 2.5V.
Then MICOM control IC701 (Deflection controller)to stophorizontal drive pulse and stop horizontal deflection.

5. Microprocessor Control Circuit

The operating procedure of MICOM(Microprocessor) and its associating circuit is as fallow:is as follows :

1) Horizontal and Vertical sync signals are supplied from the signabl cable.
2) Microprocessor(IC401) discriminates the operating mode from the sync polarity and resolution.
3) The Micom sets operating mode and offers the controlled data.(H-Size,H-Position,V-Size,...)
4) The controlled data of each mode is stored in itself.
5) User can adjust screen condition by each OSD function.the data of the adjusted condition is stored in EEPROM(IC402).

6. Horizontal and Vertical Oscillation

This circuit generates the horizontal pulse and the vertical pulse by takijg the H and V sync signal.
This circuit consists of the H/V processor(IC701) and the associate circuit.

7. D/D(DC to DC) Converter

This circuit supplies DC voltage to the horizontal deflection output circuit by increasing DC 50V which is the secdonary voltage of the SMPS in accordance with the input horizontal sync signal.

8. Side-Pincushion & Trapezoid Correction Circuit

This circuit improve the side-pincushion and the trapezoid distortion of the screen by mixing parabola and saw-tooth wave to output of the horizontal deflection D/D converter which is used for the supply voltage (B +) of the deflection circuit.

9. Horizontal Deflection Output Circuit

This circuit makes the horizontal deflection by supplying the saw-tooth current to the horizontal deflection yoke.

10.High Voltage Output & FBT(Flyback Transformer)

The high voltage output circuit is used for generating pulse to the primry coil of the FBT(Flyback Transformer(T701)). A boosted voltage 9about 24.5V) appears at the secondary of the FBT and it is suppliesd to the anode, focus, and screen voltage of the CRT.

11. H-Linearity Correction Circuit

This circuit corrects the horizontal linearity for each horizontal sync frequency.

12.Vertical Output Circuit

This circuit takes the vertical ramp wave from the IC701 and performs the vertical deflection by supplying the saw-tooth current to the vertical deflection yoke.

13.H & V Blanking and Brightness Control

Blanking circuit eliminate retrace line by supplying negatinve pulse to the G1 of the CRT. And Brightness circuit is used for control of the screen brightness by changeing DC level of the G1.

14.Image Rotation(Tilt)Circuit

This circuit corrects the tilts of the screen by supplying the image rotation signal to the tilt which is attached near the deflection yoke of the CRT.

15.Video Pre-AMP Circuit

This circuit amplifies the analog vdeo signal from 0-0.7V to 0-4V. It is operated by taking the clamp,R,G,B drive and contrast signal from the MICOM(IC401).

16.Video Output AMP Circuit

This circuit amplifies the video signal which comes from the video pre-amp circuit and amplifies it to applied the CRT cathode.

ADJUSTMENT

GENERAL INFORMATION

All adjustment are thoroughly checked and corrected when the monitor leaves the factory, but sometimes several adjustments may be required.
Adjustment should be following procedure and after warming up for a minimum of 30 minutes.

- Alignment appliances and tools.
  - IBM compatible PC.
  - Programmable Signal Generator.
    (eg. VG-819 made by Astrodesign Co.)
  - EPROM or EEPROM with saved each mode data.
  - Alignment Adaptor and Software.
  - Digital Voltmeter.
  - White Balance Meter.
  - Luminance Meter.
  - High-voltage Meter.

AUTOMATIC AND MANUAL DEGAUSSING

The degaussing coil is mounted around the CDT so that automatic degaussing when turn on the monitor. But a monitor is moved or faced in a different direction, become poor color purity cause of CDT magnetized, then press DEGAUSS on the OSD menu.

ADJUSTMENT PROCEDURE & METHOD

- Install the cable for adjustment such as Figure 1and run the alignment program on the DOS for IBM compatible PC.
- Set external Brightness and Contrast volume to max position.

1. Adjustment for B^+ Voltage.

1) Display cross hatch pattern at Mode 4.
2) Adjust C999 (+) voltage to 50± 0.5Vdc.

2. Adjustment for High-Voltage.

1) Display cross hatch pattern at Mode 4.
2) DIST.ADJ→CTRL PWM → High Voltage Command.
3) Adjust High Voltage to 24.5kV±0.1 kVdc.
4) Press Enter Key.

3. Adjustment for Factory Mode (Preset Mode).

1) Display cross hatch pattern at Mode 1.
2) Run alignment program for CB553H on the IBM compatible PC.
3) EEPROM → ALL CLEAR → Y(Yes) command.
   <Caution> *Do not run this procedure unless the EEPROM is changed. All data in EEPROM (mode data and color data) will be erased.*
4) Power button of the monitor turn off → turn on.
5) COMMAND→PRESET START→Y(Yes) command.
6) DIST. ADJ. → BALANCE command.
7) Adjust parallelogram as arrow keys to be the best condition.
8) Adjust balance of pin-balance as arrow keys to be the best condition.
9) DIST. ADJ. → FOS. ADJ command.
10) Adjust V-SIZE as arrow keys to 200±2mm.
11) Adjust V-POSITION as arrow keys to center of the screen.
12) Adjust H-SIZE as arrow keys to 270±4mm.
13) Adjust H-POSITION as arrow keys to center of the screen.
14) Adjust S-PCC (Side-Pincushion) as arrow keys to be the best condition.
15) Adjust TRAPEZOID as arrow keys to be the best condition.
16) Save of the Mode 1.
17) Display from Mode 2 to 4 and repeat above from number 10) to 17)
18) PRESET EXIT → Y (Yes) command.

4. Adjustment for White Balance and Luminance.

1) Set the White Balance Meter.
2) Press the DEGAUSS on the OSD menu for demagnetization of the CDT.
3) COLOR ADJ. → LUMINANCE command of the alignment program.
4) Set Brightness and Contrast to Max position.
5) Display color 0,0 pattern at Mode 4.
6) COLOR ADJ.→ BIAS ADJ.→ COLOR No. → 1 command of the alignment program.
7) Check whether green color or not at R-BIAS and G-BIAS to min position and G-BIAS to 127(7F) position. Sub-Brightness to 190(5A) position. Adjust G2 (screen) command to 0.4± 0.05FL of the raster luminance.
8) Adjust R-BIAS and G-BIAS command to x=0.283± 0.005 and y=0.298±0.005 on the White Balance Meter with PC arrow keys.
9) Adjust SUB-Brightness command to 0.7±0.1FL of the raster luminance.
10) Adjust repeat number 8).
11) After push the “ENTER” key.

11-1) COMMAND → PRESET START → Y(Yes) command.

12) Display color 15,0 full white pattern at Mode 4.
13) DRIVE ADJ.→ No 1. command.
14) Set Brightness and Contrast to Max position.
15) Set SUB-CONTRAST Max 160(A0) (decimal) position.
16) Set G-DRIVE to 160(A0) at DRIVE of the alignment program.

17-1) Adjust R-DRIVE and B-DRIVE command to white balance x=0.283±0.003 and y=0.298±0.003 on the White Balance Meter with PC arrow keys.

17-2) Display color 15,0 window pattern (70x70mm) at mode 4.

18) Adjust SUB-CONTRAST command to 50±2FL .

19) Display color 15,0 full white patten at Mode 4.

20) Set Brightness and Contrast to Max position.

21) COLOR ADJ. → LUMINANCE → ABL command.

22) Adjust ABL to 32±1FL of the luminance.

23) After push the “ENTER” key, and “COMMAND → PRESET EXIT → Y(Yes)” command.

24) Exit from the program.

5. Input EDID Data.

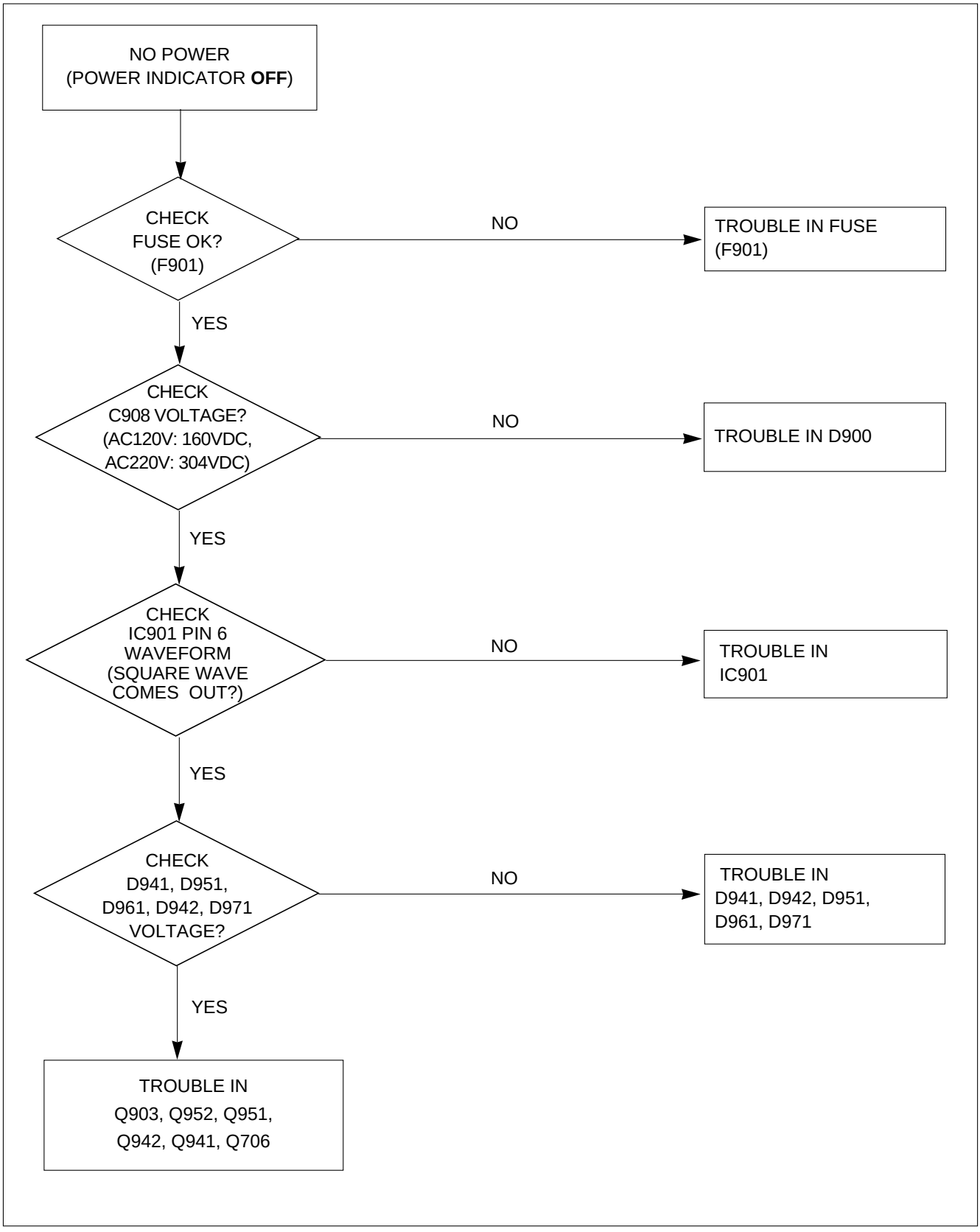
1) Display color 15,0 cross hatch pattern at Mode 4.
2) EEPROM → Write EDID command and confirm “EDID Write OK!!” message of monitor.
3) Exit from the alignment program.
4) Power switch OFF/ON for EDID data save.

6. Adjustment for Focus.

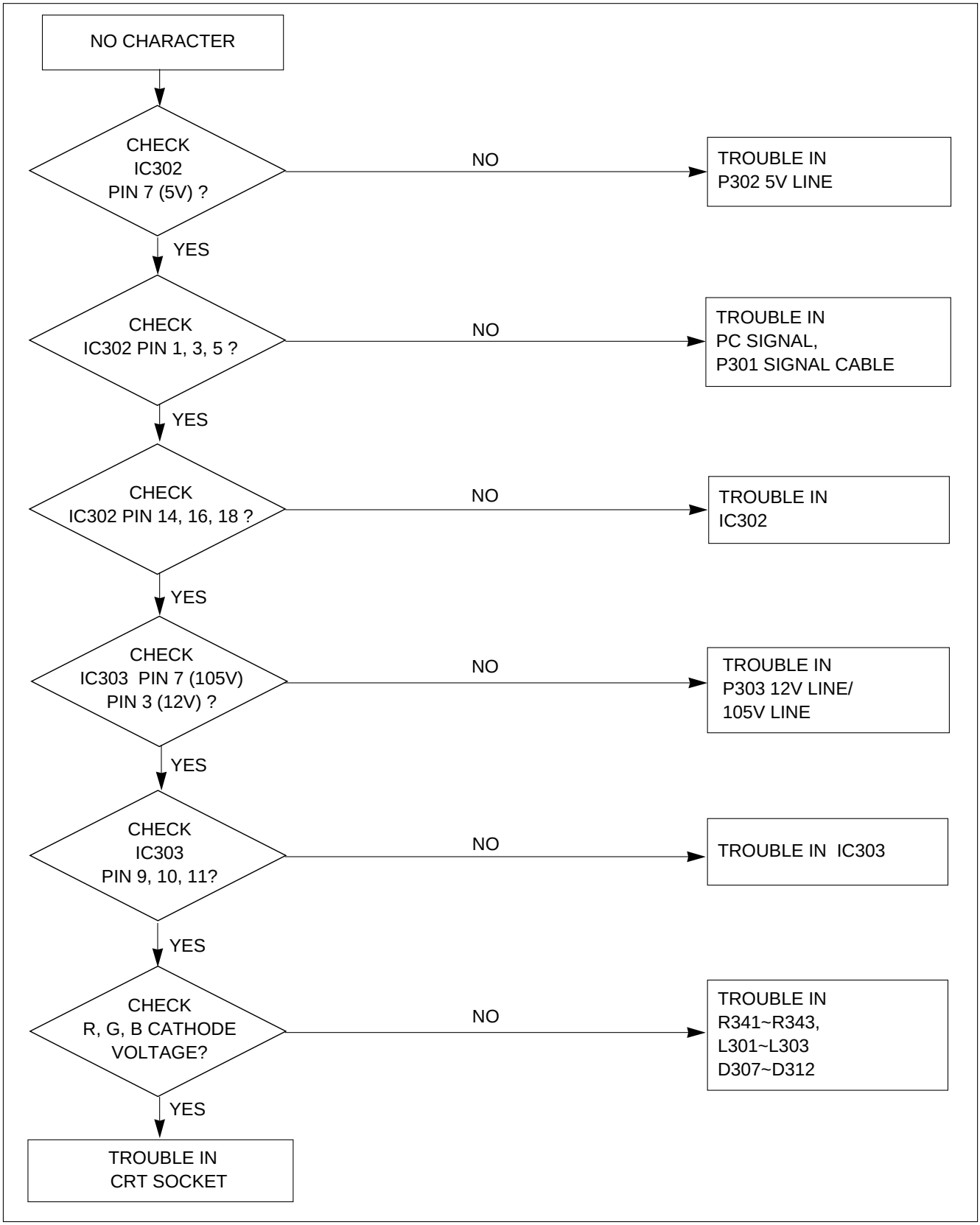
1) Set the Brightness and Contrast to max position.
2) Display H character in full screen at Mode 4.
3) Adjust two Focus control on the FBT that focus should be the best condition.

TROUBLESHOOTING GUIDE

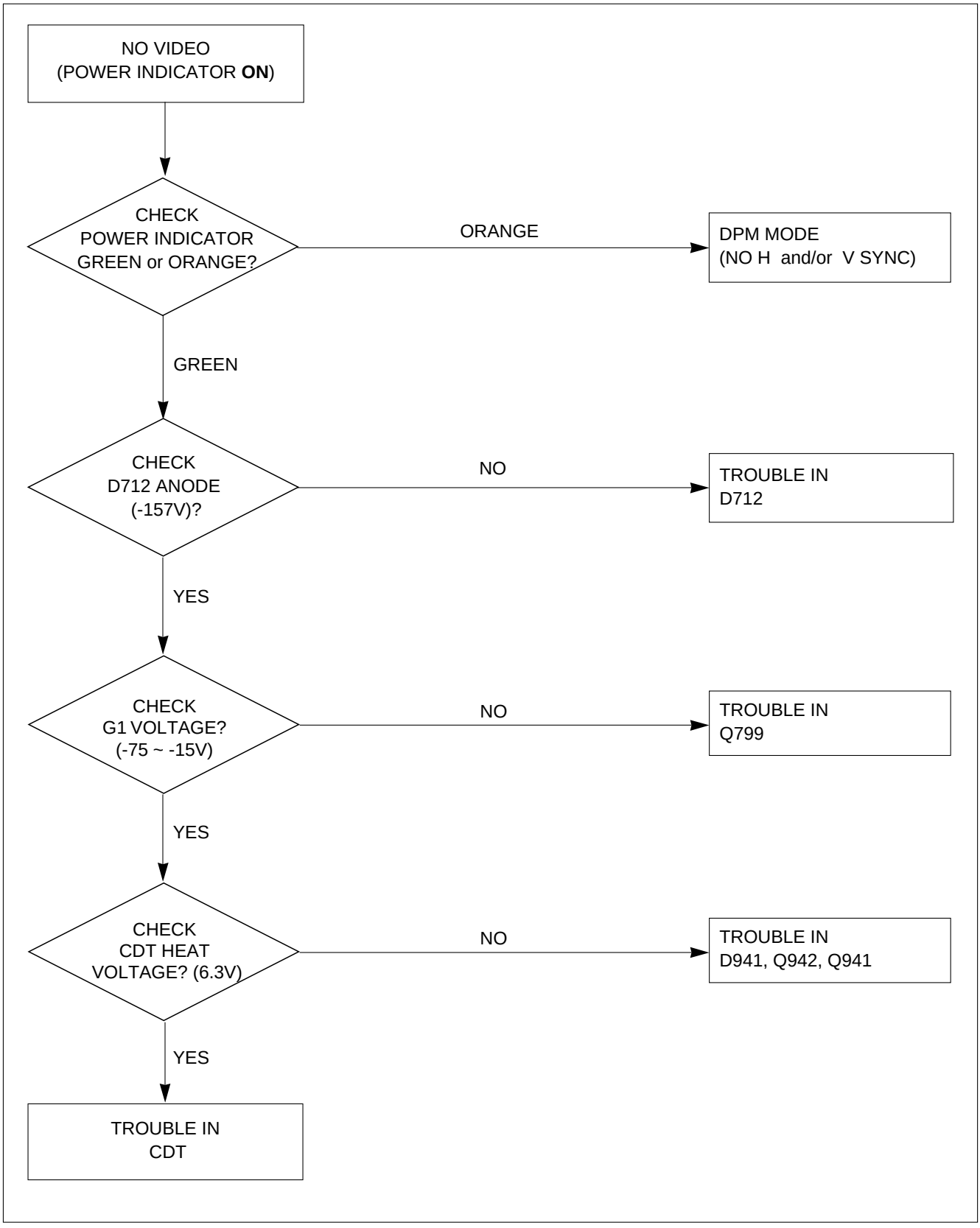
1. NO POWER



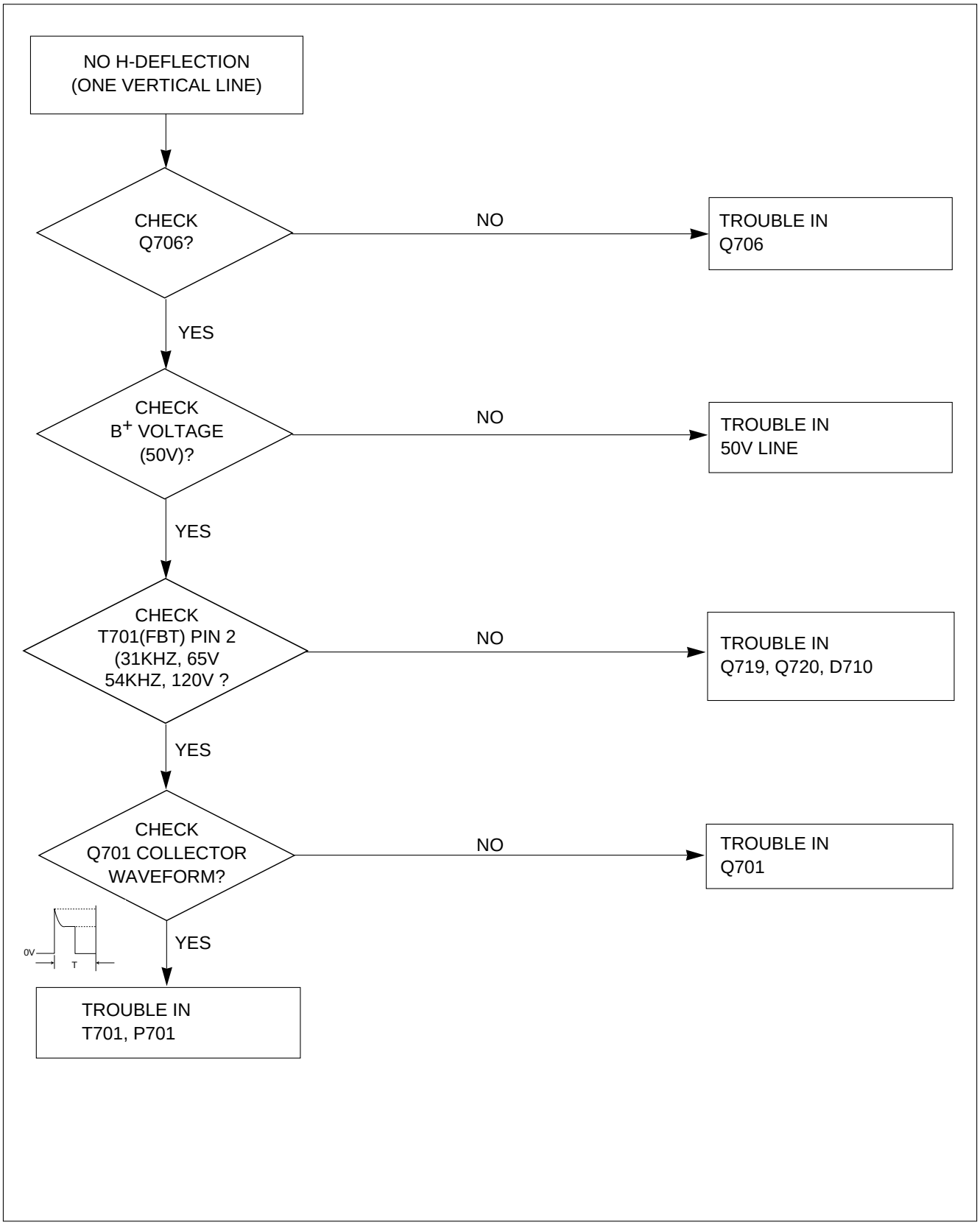
2. NO CHARACTER



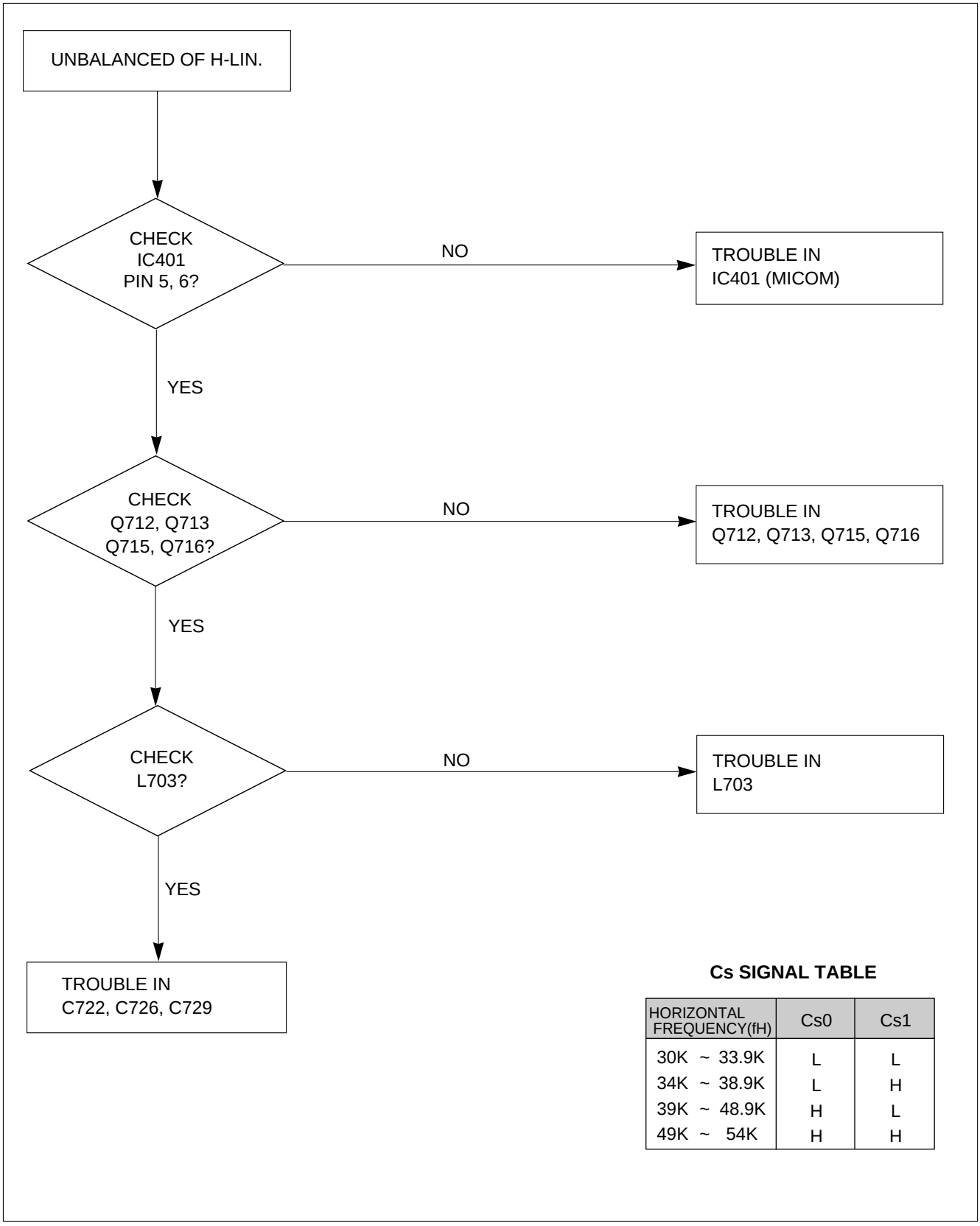
3. NO RASTER


NO VIDEO
(POWER INDICATOR **ON**)
CHECK
POWER INDICATOR
GREEN or ORANGE?
ORANGE
DPM MODE
(NO H and/or V SYNC)
GREEN
CHECK
D712 ANODE
(-157V)?
NO
TROUBLE IN
D712
YES
CHECK
G1 VOLTAGE?
(-75 ~ -15V)
NO
TROUBLE IN
Q799
YES
CHECK
CDT HEAT
VOLTAGE? (6.3V)
NO
TROUBLE IN
D941, Q942, Q941
YES
TROUBLE IN
CDT

4. NO HORIZONTAL DEFLECTION



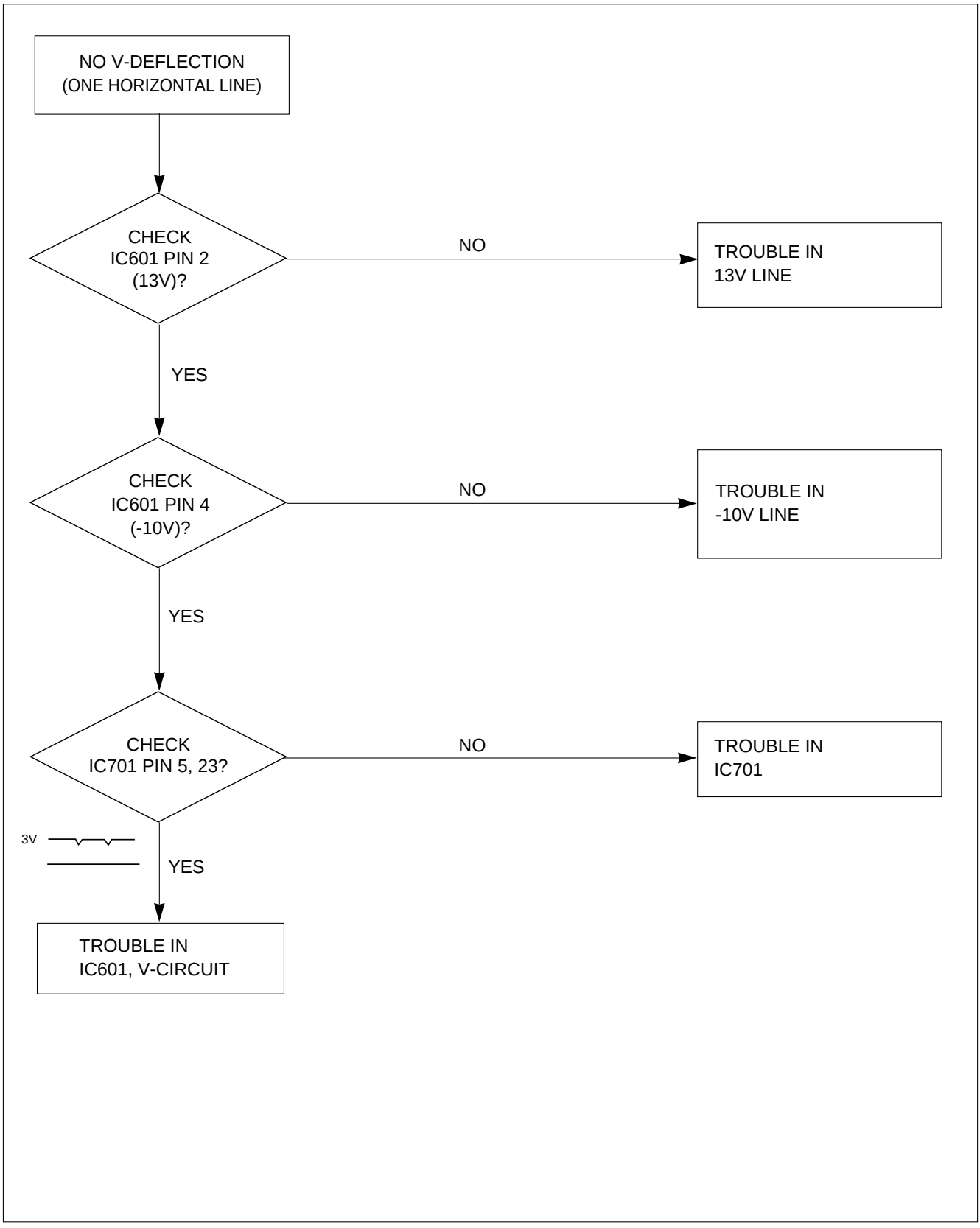
5. TROUBLE IN H-LINEARITY



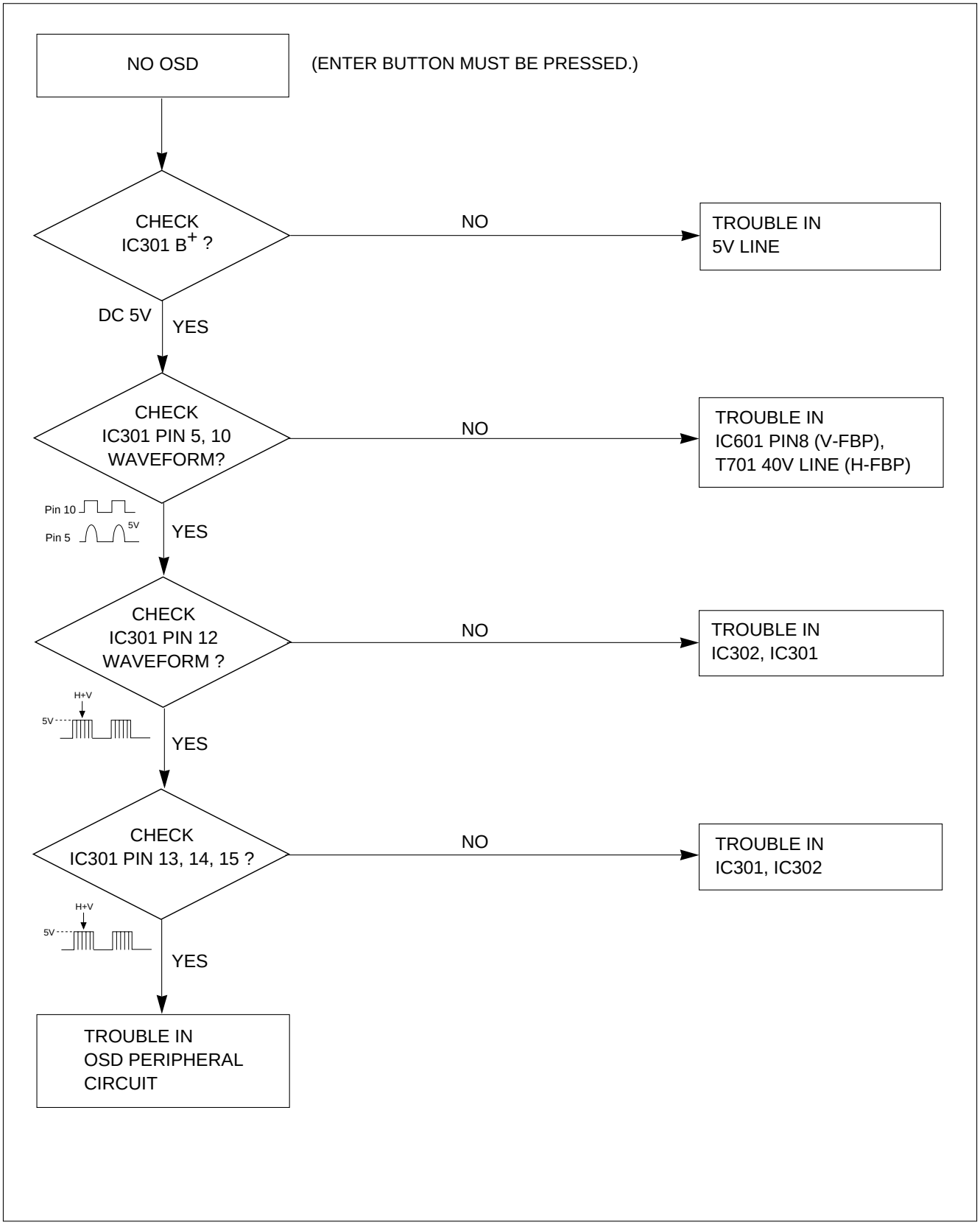
Cs SIGNAL TABLE

HORIZONTAL FREQUENCY(fH)	Cs0	Cs1
30K ~ 33.9K	L	L
34K ~ 38.9K	L	H
39K ~ 48.9K	H	L
49K ~ 54K	H	H

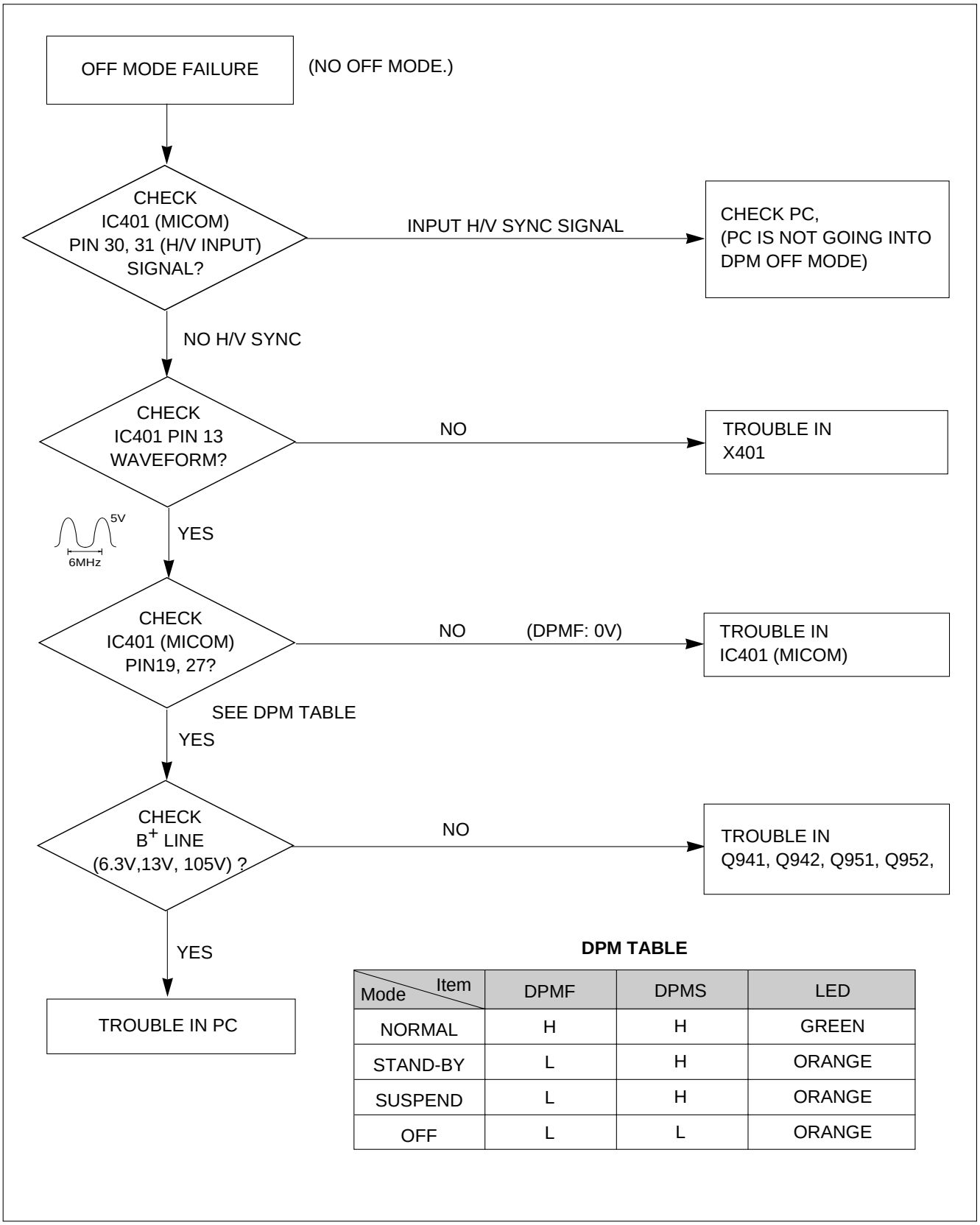
6. NO VERTICAL DEFLECTION



7. TROUBLE IN OSD



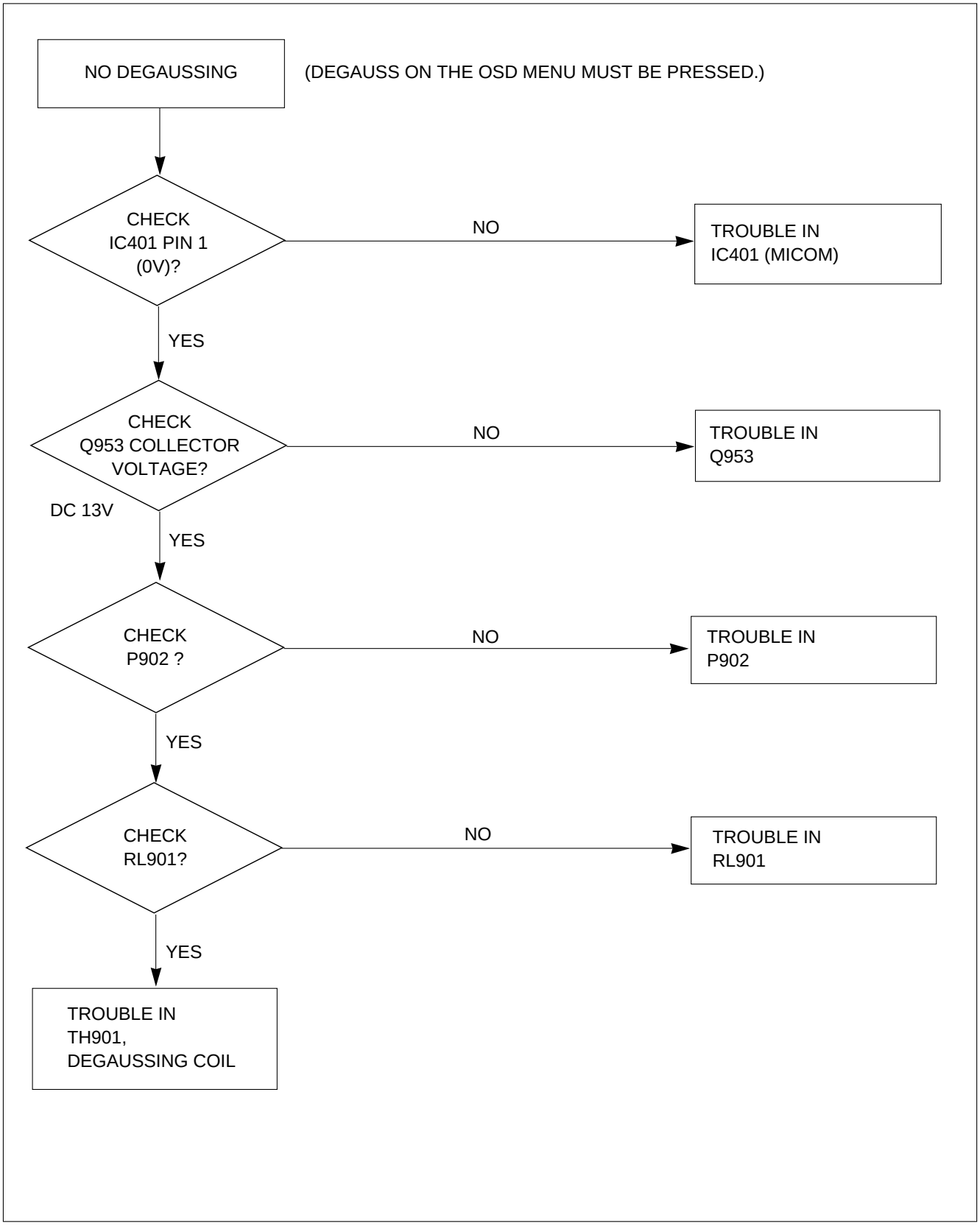
8. TROUBLE IN DPM



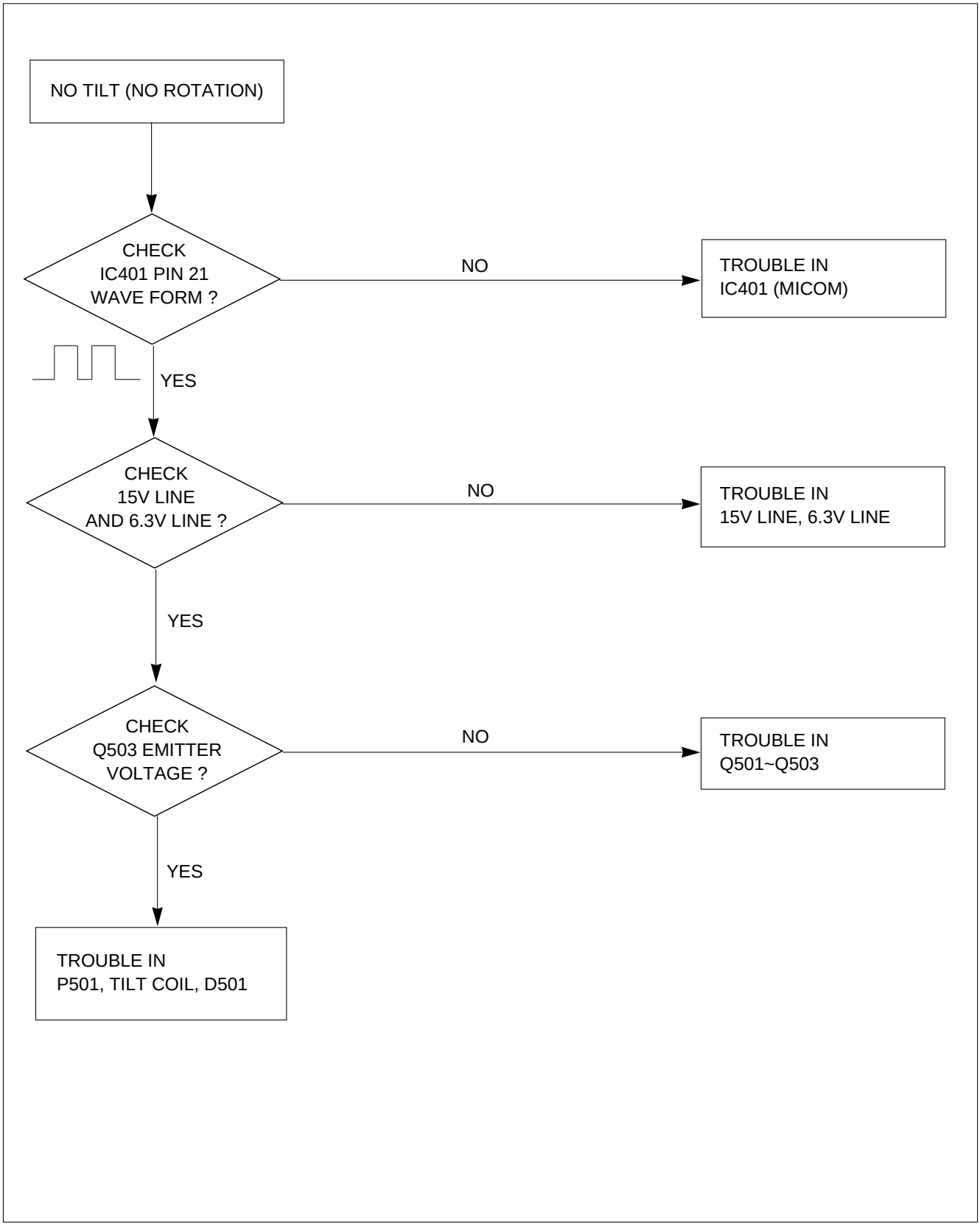
DPM TABLE

Mode \ Item	DPMF	DPMS	LED
NORMAL	H	H	GREEN
STAND-BY	L	H	ORANGE
SUSPEND	L	H	ORANGE
OFF	L	L	ORANGE

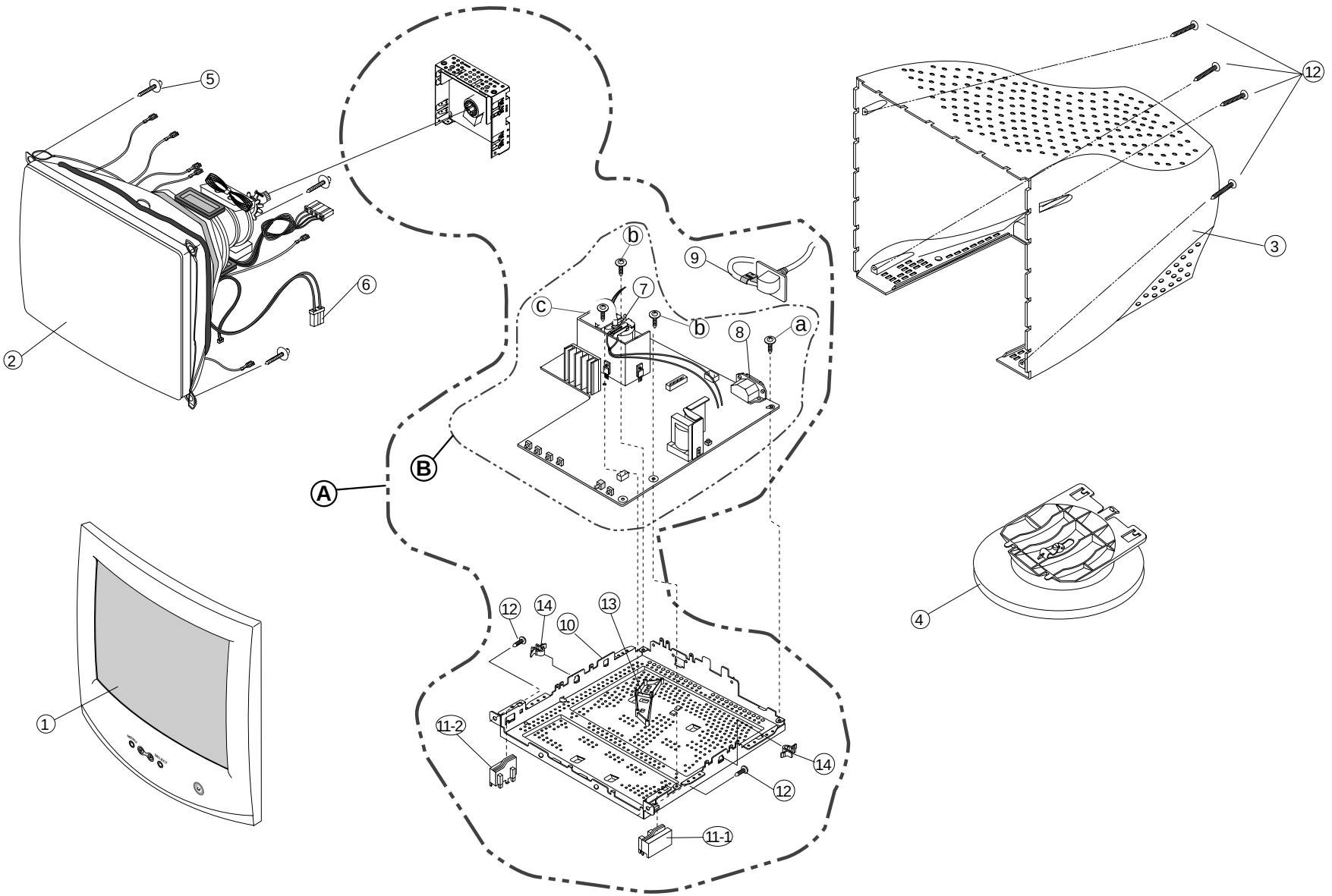
9. NO DEGAUSSING



10. NO TILT (NO ROTATION)



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKB036V	CABINET ASSEMBLY, CB553H BRAND B031 MPR-II **-For S.Africa, USA, Canada, India: (CB553H-ML)**
	3091TKB031J	CABINET ASSEMBLY, CB553H BRAND 3090TKB027A (54KHZ,MPR,NT) **-For Europe, Russia: (CB553H-ML)**
	3091TKB036W	CABINET ASSEMBLY, CB553H BRAND B031 NON-MPR-II **-For Centeral Asia, India: (CB553H-AL)**
	3091TKB036X	CABINET ASSEMBLY, CB553H BRAND B031 NON-REGULATION **-For Thailand: (CB553H-ZL)**
	3091TKB036Z	CABINET ASSEMBLY, CB553H BRAND B031 NON-MPR-II LG LOGO RED **-For Panama, Mexico, Brazil: (CB553H-AL)**
	3091TKB036Y	CABINET ASSEMBLY, CB553H BRAND B031 MPR-II LG LOGO RED **-For Mexico, Brazil: (CB553H-ML)**
2	2423GB0A81Z	CDT(CIRC), M36LBL803X 00NLLW LG-PHILIPS Displays 70KHZ 29.1 mm **-For S.Africa, USA, Canada: (CB553H-ML)**
	6318L15001A	CDT(CIRC), M36LBL803X31 LG-PHILIPS 57KHZ LGESG **-For Northern Hemisphere: (CB553H-ML)**
	6318L15004A	CDT(CIRC), M36LBL503X00NLLW LG-PHILIPS 54KHZ 29.1MM FST GLARE **-For Centeral Asia, Panama: (CB553H-AL)**
	6318L15004B	CDT(CIRC), M36LBL503X00RLLW LG-PHILIPS 54KHZ 29.1MM FST GLARE **-For Thailand: (CB553H-ZL)**
	2423GB0A8AW	CDT(CIRC), M36LBL803X 31NLLA LG-PHILIPS Displays 54KHZ 29.1 mm **-For Mexico: (CB553H-ML)**
	2423GB0A58A	CDT(CIRC), M36LBL503X 34NLLD LG-PHILIPS Displays 54KHZ 29.1 mm **-For Mexico: (CB553H-AL)**
	2423GB0A8AX	CDT(CIRC), M36LBL803X 31RLLA LG-PHILIPS Displays 54KHZ 29.1 mm **-For Brazil: (CB553H-ML)**
	2423GB0A59A	CDT(CIRC), M36LBL503X 34RLLD LG-PHILIPS Displays 54KHZ 29.1 mm **-For Brazil: (CB553H-AL)**
	2423GB0A8CF	CDT(CIRC), M36LBL803X 31NLLM LG-PHILIPS Displays 54KHZ 29.1 mm **-For India: (CB553H-ML)**
	6318L15010A	CDT(CIRC), M36LBL503X 34KLLM LG-PHILIPS 54KHZ 29.1MM FST NON-MPR SEMI-ITC **-For India: (CB553H-AL)**
3	3809TKB021A	BACK COVER ASSY, CB563 B024 ABS 85964 **-(CB553H-ML), (CB553H-AL), (CB553H-ZL)**
	3809TKB017A	BACK COVER ASSY, CB573D 3808TKB020A (LGENT) **-For Europe, Russia: (CB553H-ML)**
4	3043TKK071B	TILT SWIVEL ASSY, KCB563C B046, T051 HIPS 85964 SP LOCAL **-(CB553H-ML), (CB553H-AL), (CB553H-ZL)**
	3043TKK063X	TILT SWIVEL ASSEMBLY, CB553H B056/T046 60HR,85964,NT **-For Europe, Russia, Mexico: (CB553H-ML)**
	3043TKK071A	TILT SWIVEL ASSY, CB563 T051 B046 HIPS 85964 **-For India: (CB553H-AL)**
5	339-002D	SCREW ASSY, PHP+5*30BP(FZMY)+GW18
6	6140TC3006B	COILDEGAUSSING, 75D-437 KWANGSUNG CB563G NT
7	6174Z-1035G	FBT (FLY BACK TRANSFORMER), FMMTC81 AM1035G (LIM SANG IL) **-(CB553H-ML), (CB553H-AL), (CB553H-ZL)**
	6174T13012A	FBT (FLY BACK TRANSFORMER), C93 BSC23-1435 HITACHI 15" **-For Europe, Russia, Mexico: (CB553H-ML)**
8	6620TKB002D	SOCKET(CIRC), POWER, CDJ-3C DUOLING AC UNIVERSAL 3PIN BLACK
	or 6620TKB002B	SOCKET(CIRC), POWER, SA-4S HUA JIE AC UNIVERSAL 3PIN BLACK
	or 6620TKB002A	SOCKET(CIRC), POWER, BAE EUN AC UNIVERSAL 3PIN BLACK
9	6850TA9009A	CABLE, D-SUB, UL2990-9C(5.8) AT 1560MM GRAY(85964) EB770H DM
	or 6850TA9008A	CABLE, D-SUB, ATTACHED UL20276-9C(5.5) AT 1560MM GRAY CB553H
	or 6850TA9004A	CABLE, D-SUB, UL 2990-9C(7.5) AT 1560MM GLAY CB777G DM
10	4950TKS155K	METAL, SHIELD BOTTOM "H"CHASSIS **-(CB553H-ML), (CB553H-AL), (CB553H-ZL)**
	4950TKS207A	METAL, SHIELD BOTTOM,CB553H **-For Europe, Russia: (CB553H-ML)**
	4950TKS155L	METAL, SHIELD BOTTOM "H"CHASSIS(K-CKD) **-For Mexico : (CB553H-ML), Brazil: (CB553H-AL)**
11-1	4810TKK153A	BRACKET, CB773D SUPPORTER CDT
11-2	4810TKK154A	BRACKET, CB773D SUPPORTER CDT(L)
12	332-102F	SCREW, PTP+4*20BP(MSWR/FZMY)
13	4810TKK204C	BRACKET, H-CHASSIS HOLDER FBT, A-CKD
14	4930TKK031C	HOLDER, PCB FIX, PC+ABS
A	3313T15084E	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120(MPRII) **-For S.Africa, USA, Canada: (CB553H-ML)**
	3313T15084A	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120 **-For Europe, Russia: (CB553H-ML)**
	3313T15084C	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120(NON MPR) **-For Centeral Asia, Panama: (CB553H-AL)**
	3313T15084K	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120 **-For Thailand: (CB553H-ZL)**
	3313T15084F	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120(MPRII) **-For Brazil: (CB553H-ML)**
	3313T15084J	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120 **-For Brazil: (CB553H-AL)**
	3313T15084H	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120(MPRII) **-For India: (CB553H-ML)**
	3313T15084N	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120(NON MPR) **-For India: (CB553H-AL)**
	3313T15084D	MAIN TOTAL ASSEMBLY, CB553H BRAND CA-120(MPRII) MX **-For Mexico: (CB553H-ML), (CB553H-AL)**
B	6871TMT338E	PWB(PCB) ASSEMBLY, MAIN, CB553H KLZAMD BRAND CA-120(MPRII) TOTAL **-For S.Africa, USA, Canada: (CB553H-ML)**
	6871TMT338A	PWB(PCB) ASSEMBLY, MAIN, CB553H KLRDMT BRAND CA-120(MPR) TOTAL **-For Europe, Russia: (CB553H-ML)**
	6871TMT338C	PWB(PCB) ASSEMBLY, MAIN, CB553H KLEUAD BRAND CA-120 TOTAL **-For Centeral Asia, Panama: (CB553H-AL)**
	6871TMT338K	PWB(PCB) ASSEMBLY, MAIN, CB553H KLDAZD BRAND CA-120 TOTAL **-For Thailand: (CB553H-ZL)**
	6871TMT338F	PWB(PCB) ASSEMBLY, MAIN, CB553H KLBRMS BRAND CA-120(MPRII) TOTAL **-For Brazil: (CB553H-ML)**
	6871TMT338J	PWB(PCB) ASSEMBLY ,MAIN, CB553H KLBRAS BRAND CA-120 TOTAL **-For Brazil: (CB553H-AL)**
	6871TMT338H	PWB(PCB) ASSEMBLY, MAIN, CB553H KLINML BRAND CA-120(MPRII) TOTAL **-For India: (CB553H-ML)**
	6871TMT338M	PWB(PCB) ASSEMBLY, MAIN, CB553H KLINAL BRAND CA-120(NON MPR) TOTAL **-For India: (CB553H-AL)**
	6871TMT338D	PWB(PCB) ASSEMBLY, MAIN, CB553H PLMXMA BRAND CA-120 TOTAL **-For Mexico: (CB553H-ML), (CB553H-AL)**
a	332-112F	SCREW, DRAWING, D3.5 L10.0 MSWR/FZMY +SW3.5+RW3.5
b	4001TKK004E	SCREW ASSEMBLY, TAPTITE P TYPE D3.0 L10.0 MSWR/FZMY SW3+RW10
c	332-095B	SCREW,DRAWING, PZP+3*10(MSWR/FZMY)

REPLACEMENT PARTS LIST

CAUTION: BEFORE REPLACING ANY OF THESE COMPONENTS,
READ CAREFULLY THE **SAFETY PRECAUTIONS** IN THIS MANUAL.
* NOTE : **S** SAFETY Mark ⚠
AL ALTERNATIVE PARTS

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		CAPACITORS		
		C301	0CK1040K945	0.1UF 50V Z F TR
		C302	0CK1040K945	0.1UF 50V Z F TR
		C303	0CK1040K945	0.1UF 50V Z F TR
		C305	181-288C	MKT 100V 224JTR PHS 26224
		C306	0CE107CF638	100UF SHL,SD 16V M FM5 TP
		C307	0CK1040K945	0.1UF 50V Z F TR
		C308	0CK1040K945	0.1UF 50V Z F TR
		C309	0CK1040K945	0.1UF 50V Z F TR
		C310	0CE106CF638	10UF SHL,SD 16V M FM5 TP 5
		C311	0CK1040K945	0.1UF 50V Z F TR
		C312	0CK1040K945	0.1UF 50V Z F TR
		C314	0CK1010K515	100PF 50V K B TR
		C325	0CK1040K945	0.1UF 50V Z F TR
		C326	0CK4710W515	470P 500V K B TS
		C327	0CK10302940	0.01M 2KV Z F S
		C328	0CK10202515	1000PF D 2KV 10% TR B(Y5P)
		C331	0CC2200W415	22PF 500V J NP0 TR
		C332	0CK10301945	10000PF D 1KV Z F(Y5V) TR
		C346	0CE475CP638	4.7UF SHL,SD 160V M FM5 TP
		C380	0CE107CF638	100UF SHL,SD 16V M FM5 TP
		C384	0CC1000K115	10P 50V D NP0 TS
		C386	0CC1000K115	10P 50V D NP0 TS
		C388	0CC1000K115	10P 50V D NP0 TS
		C389	0CE475CP638	4.7UF SHL,SD 160V M FM5 TP
		C390	0CK10301945	10000PF D 1KV Z F(Y5V) TR
		C394	0CN1520F569	1500P 16V K X TA52
		C395	0CK1520K515	1500P 50V K B TS
		C396	0CK1520K515	1500P 50V K B TS
		C397	0CK1040K945	0.1UF 50V Z F TR
		C402	0CE476CF638	47UF SHL,SD 16V M FM5 TP 5
		C403	0CK1040K945	0.1UF 50V Z F TR
		C404	0CC1800K415	18P 50V J NPO TP
		C405	0CC1800K415	18P 50V J NPO TP
		C406	0CK1010K515	100PF 50V K B TR
		C407	0CK1010K515	100PF 50V K B TR
		C408	0CK1040K945	0.1UF 50V Z F TR
		C409	0CC5600K415	56P 50V J NP0 TP
		C410	0CK1010K515	100PF 50V K B TR
		C416	0CE225CK638	2.2UF SHL,SD 50V M FM5 TP
		C601-1	0CE477CF618	470UF SHL 16V M FL TP5
		C603	0CE227CK618	220U SHL 50V M FL TP5
		C606	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C611-1	0CE477CF618	470UF SHL 16V M FL TP5
		C613	181-288Q	MKT 100V 154JTR PHS26154
		C614	0CE225CK638	2.2UF SHL,SD 50V M FM5 TP
		C615	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C701	0CE105CK638	1UF SHL,SD 50V 20% FM5 TP
		C702	0CQ2231N419	0.022UF 100V J PE NI TP
		C703	0CQ1021N419	1000P 100V J POLY NI TP
		C704	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C705	0CE475CK638	4.7UF SHL,SD 50V M FM5 TP
		C706	0CE105CK638	1UF SHL,SD 50V 20% FM5 TP
		C707	0CK1520K515	1500P 50V K B TS

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C708	0CE227CH638	220UF SHL,SD 25V M FM5 TP
		C709	0CE105CK638	1UF SHL,SD 50V 20% FM5 TP
		C710	181-288Q	MKT 100V 154JTR PHS26154
		C711	181-288M	MKT 63V 105KTR PHS15105
		C712	0CK1040K945	0.1UF 50V Z F TR
		C713	0CK2210K515	220P 50V K B TS
		C714	0CE107CF638	100UF SHL,SD 16V M FM5 TP
		C715	0CQ1031N419	0.01U 100V J POLY NI TP
		C717	0CE476CF638	47UF SHL,SD 16V M FM5 TP 5
		C719	0CZZTAB001F	SHL-BP SYE / SWE 50V 3.3UF
		C722	181-303H	394J 31.0*23.0*16.0*20.0 2
		C724	0CK1040K945	0.1UF 50V Z F TR
		C725	0CK6810W515	680P 500V K B TS
		C726	181-482F	274JF 18.0*17.0*10.0*7.5 2
		C728	0CQ5621N419	5600P 100V J POLY NI TP
		C729	181-305V	514J 26.0*18.0*11.0*15.0 2
		C730	0CK1040K945	0.1UF 50V Z F TR
⚠		C731	181-309X	542J 31.0*17.0*10.0*20.0
		C732	0CQ1031N419	0.01U 100V J POLY NI TP
		C733	0CBZTBU003K	472J 20.0*13.0*8.0*10.0 80
		C735	181-288B	MKT 100V 104JTR PHS26104
		C736	0CE2266F618	22M SMS 16V M FM5 TP(
		C737	0CK10102515	100PF D 2KV 10% B(Y5P) TR
		C739	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C740	0CE227CL630	220U SHL 63V M FM5
		C741	0CZZTFT002B	ECQV1H154JZ3 154J 50V TP5.
		C742	181-288K	MKT 100V 683JTR PHS26683
		C743	0CZZTFT002B	ECQV1H154JZ3 154J 50V TP5.
		C744	0CZZTAB005A	SMSHR SYE / SWE 160V 47UF
		C746	0CK3310W515	330P 500V K B TS
		C748	0CK1510W515	150PF 500V K B TR
		C749	0CE2256R638	2.2000UF SMS 250V M FM5 TP
		C750	0CK1040K945	0.1UF 50V Z F TR
		C751	181-288J	MKT 100V 563JTR PHS26563
		C752	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C753	0CQ1021N419	1000P 100V J POLY NI TP
		C754	0CC4700W405	47PF 500V J SL TP **-(CB553H-ML)**
		C759	0CK1020K515	1000PF 50V K B TR
		C771	0CK10301945	10000PF D 1KV Z F(Y5V) TR
		C801	0CK1040K945	0.1UF 50V Z F TR
		C802	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C805	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C901	0CZZTFB001A	BULK MPX 224K2YL (X2)
		C902	0CZZTFB001A	BULK MPX 224K2YL (X2)
		C903	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C903	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C904	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C904	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C905	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C905	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C906	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C906	0CZZTCB003A	BULK 7.5 CS E 222M 10.5 25
		C908	181-296K	150UF SMH,HC(25.4*30) 400V
		C909	0CK1030W510	0.01U 500V K B S

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C910	0CK27101515	270P 1KV K B TS
		C911	0CE475CK638	4.7UF SHL,SD 50V M FM5 TP
		C913	0CE476CK638	47UF SHL,SD 50V M FM5 TP 5
		C914	0CZZTFT001P	ECQB1H153JM3 153J 50V TP5.
		C915	0CK6810K515	680P 50V K B TS
		C917	0CK1020K515	1000PF 50V K B TR
		C918	0CK1040K945	0.1UF 50V Z F TR
		C941	0CE108CD618	1000UF SHL 10V M FL TP5
		C942	0CE107CF638	100UF SHL,SD 16V M FM5 TP
		C943	0CK56101515	560P 1KV K B TS
		C944	0CZZTCB003C	BULK 7.5 CS E 472M 14.5 25 **-(CB553H-ML)**
		C944	0CZZTCB002C	DCF472M59Y5UQ7DK7D **-(CB553H-AL)**
		C945	0CK5610W515	560P 500V K B TS
		C946	0CZZTCB003C	BULK 7.5 CS E 472M 14.5 25 **-(CB553H-ML)**
		C946	0CZZTCB002C	DCF472M59Y5UQ7DK7D **-(CB553H-AL)**
		C951	0CE108CF630	1000UF SHL 16V M FM5 BULK
		C952	0CE227CH638	220UF SHL,SD 25V M FM5 TP
		C953	0CE107CF638	100UF SHL,SD 16V M FM5 TP
		C954	0CE108CF630	1000UF SHL 16V M FM5 BULK
		C971	0CE476CN618	47UF SHL 100V M FL TP5
		C999	0CE227CL630	220U SHL 63V M FM5
		DIODEs		
		D201	0DLGP0010AB	XIAMEN G&P GP32052ME/512-Z
		D301	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D302	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D303	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D304	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D305	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D306	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D307	0DS124409AA	1SS244 TP ROHM KOREA
		D308	0DS124409AA	1SS244 TP ROHM KOREA
		D309	0DS124409AA	1SS244 TP ROHM KOREA
		D310	0DS124409AA	1SS244 TP ROHM KOREA
		D311	0DS124409AA	1SS244 TP ROHM KOREA
		D312	0DS124409AA	1SS244 TP ROHM KOREA
		D313	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D314	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D399	0DR140059AD	1N4005 GULF TP DO41 600V 1
		D402	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D404	971-0016	TIN HDC 0.60H
		D610	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D610	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D702	0DS124409AA	1SS244 TP ROHM KOREA
		D703	0DRGF00080A	GUR460 GULF BK DO201AD 600
		D704	0DR150001AD	DTV1500LFP SGS-THOMSON ST
		D705	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D705	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D706	0DRGF00110A	GRD07-15GP GULF BK DO201AD
		D707	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D709	971-0016	TIN HDC 0.60H
		D710	0DRGF00109B	GUF10G-28A GULF TP DO41 40
		D711	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D712	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D712	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D713	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D714	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D715	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D716	0DR140059AD	1N4005 GULF TP DO41 600V 1
		D717	0DR140059AD	1N4005 GULF TP DO41 600V 1
		D719	0DR100009DA	RGP10J TP GULF SEMICONDUCT
		D719	0DR100009DA	RGP10J TP GULF SEMICONDUCT

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		D720	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D721	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D724	0DR140059AD	1N4005 GULF TP DO41 600V 1
		D725	0DRGF00069A	SB140 GULF TP DO41 40V 1A
		D725	0DRGF00069A	SB140 GULF TP DO41 40V 1A
		D801	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D802	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D900	0DRGF00090A	GBL06 GULF BK GBL 600V 4A
		D902	971-0016	TIN HDC 0.60H
		D904	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D904	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D905	0DRGF00109A	GUF10M GULF TP DO41 1000V
		D905	0DRGF00109A	GUF10M GULF TP DO41 1000V
		D906	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D906	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D908	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D910	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D911	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D941	0DR100009LD	UG1D GULF TP DO41 200V 1A
		D942	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D942	0DR100009CD	RGP10G-1021 TIWAN SEMI TP
		D951	0DRTW00044B	UG2DL-1021 TIWAN SEMI BK D
		D952	0DS141489AB	1N4148 TP GRANDE DO-34 500
		D961	0DRTW00060A	SF38GL-1121 TIWAN SEMI BK
		D961	0DRTW00060A	SF38GL-1121 TIWAN SEMI BK
		D971	0DR100009DA	RGP10J TP GULF SEMICONDUCT
		D971	0DR100009DA	RGP10J TP GULF SEMICONDUCT
		ZD402	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 5
		ZD403	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 5
		ZD404	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 5
		ZD405	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 5
		ZD407	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 5
		ZD408	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 5
		ZD409	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 5
		ZD701	0DZ120009BF	GDZJ12B TP GRANDE DO34 0.5
		ZD702	971-0016	TIN HDC 0.60H
		ZD902	0DZ510009BE	GDZ5.1B TP GRANDE DO34 500
		ICs		
		IC301	0IPRPWL001A	6805-N160WT-87A WELTREND 1
		IC302	0IPRPSG014A	STV9211 SGS-THOMSON 20P,DI
		IC303	0IPRPSG015A	STV9555 SGS-THOMSON 11P,CL
		IC401	0IZZTSZ210A	SS 42PIN SDIP ST OTP CB553
		IC402	0ISG240860A	M24C08-BN6 8DIP BK 8K SERI
		IC601	0IPRPSG016A	STV9302A SGS-THOMSON TO220
		IC701	0IPRPSS003A	S1D2519X01 SAMSUNG ELECTRO
		IC901	0ISS384200A	KA3842B (PWM)
		COILs & CORES		
		FB303	6210TCE003J	BAS2550T BO SUNG 2550MM AX
		FB304	6210TCE003J	BAS2550T BO SUNG 2550MM AX
		FB305	6210TCE003A	BRD3510B BO SUNG 3510MM RA
		FB314	6210TCZ001J	BAS3550T0(125-022J) BO SUN
		FB315	6210TCZ001J	BAS3550T0(125-022J) BO SUN
		FB316	6210TCZ001J	BAS3550T0(125-022J) BO SUN
		FB401	971-0016	TIN HDC 0.60H
		FB402	6210TCE003K	BAS3550T BO SUNG 3550MM AX
		FB403	6210TCE003K	BAS3550T BO SUNG 3550MM AX
		FB701	6210TCE003L	BAS3580T BO SUNG 3580MM AX
		FB703	6210TCE003B	BRS3580B BO SUNG 3580MM**-(CB553H-ML)**
		FB705	971-0016	TIN HDC 0.60H

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		FB903	6210TCE003P	BRS2550B BO SUNG 2550MM RA
		FB904	971-0016	TIN HDC 0.60H
		FB905	6210TCE003P	BRS2550B BO SUNG 2550MM RA
		FB921	6210TCE003A	BRD3510B BO SUNG 3510MM RA
		FB922	6210TCE003L	BAS3580T BO SUNG 3580MM AX
		FB951	971-0016	TIN HDC 0.60H
		L301	0LA0560K119	0.56UH K 2.3*3.4 TP
		L302	0LA0560K119	0.56UH K 2.3*3.4 TP
		L303	0LA0560K119	0.56UH K 2.3*3.4 TP
		L304	0LA1000K119	100UH K 2.3*3.4 TP
		L310	6210TCE003P	BRS2550B BO SUNG 2550MM RA
		L702	6140TBZ025C	DR14*20 150UH 0.12*25MM 51
		L703	6140TYZ010F	LX31 GET DR14*15-C5.2,19.5 **-(CB553H-ML)**
		L703	6140TYZ010G	LX31 GET DR14*15-C5.2,16.5T **-(CB553H-AL)**
		L705	6140TBZ026C	DR15*18-C9.8 100UH 0.1*30M
		L901	6200TZZ004A	SQE2626 NAMYANG BK L/FILTE
		L903	6200J00003A	RH3.5*5.0 BOSUNG TP
	TRANSISTOR			
		Q301	0TR100809AA	KSC1008C-Y TP SAMSUNG TO9
		Q701	0TR319809AA	KTC3198-Y(KTC1815) TP KEC
		Q703	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC
		Q704	0TR320209AA	KTC3202-Y(KTC1959) TP KEC
		Q705	0TR100809AA	KSC1008C-Y TP SAMSUNG TO9
		Q706	0TRTH10005A	2SC5855 TOSHIBA ST TO3P 15
		Q707	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC
		Q708	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC
		Q709	0TR141300AB	KTD1413 BK KEC TO220I S NP
		Q711	0TF630000DA	IRF630A BK SAMSUNG 200V 9A
		Q713	0TF630000DA	IRF630A BK SAMSUNG 200V 9A
		Q715	0TR319809AA	KTC3198-Y(KTC1815) TP KEC
		Q716	0TR319809AA	KTC3198-Y(KTC1815) TP KEC
		Q717	0TR100809AA	KSC1008C-Y TP SAMSUNG TO9
		Q719	0TF630000DA	IRF630A BK SAMSUNG 200V 9A
		Q799	0TR920009AB	KSP92 TP SAMSUNG TO92 HIGH
		Q901	0TF760000AC	SSS7N60A BK SAMSUNG 600V 7
		Q903	0TR100809AA	KSC1008C-Y TP SAMSUNG TO9
		Q941	0TR319809AA	KTC3198-Y(KTC1815) TP KEC
		Q942	0TR928009AB	KSA928A-Y TP SAMSUNG TO92L
		Q951	0TR319809AA	KTC3198-Y(KTC1815) TP KEC
		Q952	0TR928009AB	KSA928A-Y TP SAMSUNG TO92L
		Q953	0TR319809AA	KTC3198-Y(KTC1815) TP KEC
	RESISTORs			
		R301	0RD0752Q609	75 1/4W(3 5% TA52
		R302	0RD0752Q609	75 1/4W(3 5% TA52
		R303	0RD0752Q609	75 1/4W(3 5% TA52
		R304	0RD3001Q609	3K 1/4W(3 5% TA52
		R305	0RD1001Q609	1K 1/4W(3 5% TA52
		R307	0RD6200Q609	620 1/4W(3 5% TA52
		R308	0RD6803Q609	680K 1/4W(3 5% TA52
		R309	0RN6201F409	6.20K 1/6W 1% TA52
		R311	0RD0271Q609	2.70 1/4W(3 5% TA52
		R312	0RD2001Q609	2K 1/4W(3 5% TA52
		R313	0RD1000Q609	100 1/4W(3 5% TA52
		R314	0RD6800Q609	680 1/4W(3 5% TA52
		R315	0RD2400A609	240 OHM 1/2 W (7.0) 5% TA5
		R317	0RD1001Q609	1K 1/4W(3 5% TA52
		R319	0RD1000Q609	100 1/4W(3 5% TA52
		R320	0RD1000Q609	100 1/4W(3 5% TA52
		R321	0RD0152Q609	15 1/4W(3 5% TA52

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R322	0RD0152Q609	15 1/4W(3 5% TA52
		R323	0RD0152Q609	15 1/4W(3 5% TA52
		R324	0RD3300Q609	330 1/4W(3 5% TA52
		R325	0RD3300Q609	330 1/4W(3 5% TA52
		R326	0RD3300Q609	330 1/4W(3 5% TA52
		R327	0RD3300Q609	330 1/4W(3 5% TA52
		R331	0RD0512Q609	51 1/4W(3 5% TA52
		R332	0RD0512Q609	51 1/4W(3 5% TA52
		R333	0RD0512Q609	51 1/4W(3 5% TA52
		R335	0RD0271Q609	2.70 1/4W(3 5% TA52
		R336	0RD1000Q609	100 1/4W(3 5% TA52
		R337	0RD1000Q609	100 1/4W(3 5% TA52
		R341	0RD1500Q609	150 1/4W(3 5% TA52
		R342	0RD1500Q609	150 1/4W(3 5% TA52
		R343	0RD1500Q609	150 1/4W(3 5% TA52
		R344	0RD1000Q609	100 1/4W(3 5% TA52
		R351	0RD2200A609	220 OHM 1/2 W (7.0) 5% TA5
		R352	0RD2200A609	220 OHM 1/2 W (7.0) 5% TA5
		R353	0RD2200A609	220 OHM 1/2 W (7.0) 5% TA5
		R354	0RD0392A609	39 OHM 1/2 W (7.0) 5% TA52
		R382	0RD1000Q609	100 1/4W(3 5% TA52
		R383	0RD1000Q609	100 1/4W(3 5% TA52
		R401	0RD1000Q609	100 1/4W(3 5% TA52
		R402	0RD5600Q609	560 1/4W(3 5% TA52
		R403	0RD1002Q609	10K 1/4W(3 5% TA52
		R405	0RD2001Q609	2K 1/4W(3 5% TA52
		R406	0RD2001Q609	2K 1/4W(3 5% TA52
		R407	0RD1300Q609	130 1/4W(3 5% TA52
		R408	0RD1300Q609	130 1/4W(3 5% TA52
		R409	0RD1000Q609	100 1/4W(3 5% TA52
		R410	0RD1000Q609	100 1/4W(3 5% TA52
		R414	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R417	0RD1000Q609	100 1/4W(3 5% TA52
		R418	0RD1002Q609	10K 1/4W(3 5% TA52
		R419	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R424	0RD2200Q609	220 1/4W(3 5% TA52
		R425	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R426	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R429	0RD1000Q609	100 1/4W(3 5% TA52
		R430	0RD1000Q609	100 1/4W(3 5% TA52
		R431	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R432	0RD1000Q609	100 1/4W(3 5% TA52
		R433	0RD1000Q609	100 1/4W(3 5% TA52
		R434	0RD1000Q609	100 1/4W(3 5% TA52
		R438	0RD1001Q609	1K 1/4W(3 5% TA52
		R439	0RD1001Q609	1K 1/4W(3 5% TA52
		R441	0RD2200Q609	220 1/4W(3 5% TA52
		R442	0RD2200Q609	220 1/4W(3 5% TA52
		R443	0RD0912Q609	91 OHM 1/4 W (3.4) 5% TA52
		R445	0RD5101Q609	5.10K 1/4W(3 5% TA52
		R446	0RD1002Q609	10K 1/4W(3 5% TA52
		R447	0RD1001Q609	1K 1/4W(3 5% TA52
		R448	0RD1801Q609	1.80K 1/4W(3 5% TA52
		R490	0RD9100Q609	910 1/4W(3 5% TA52
		R491	0RD2200Q609	220 1/4W(3 5% TA52
		R492	0RD4300Q609	430 OHM 1/4 W(3.4) 5.00% T
		R493	0RD7500Q609	750 OHM 1/4 W (3.4) 5% TA5
		R494	0RD1001Q609	1K 1/4W(3 5% TA52
		R495	0RD1001Q609	1K 1/4W(3 5% TA52
		R602	0RN1000F409	100OHM 1/6 W 1% TA52
		R604	0RN2001F409	2K 1/6W 1% TA52
		R607	0RN5101F409	5.10K 1/6W 1% TA52
		R608	0RN2002F409	20K 1/6W 1% TA52

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R609	0RN1102F409	11K 1/6W 1% TA52
		R611	0RD0151A609	1.5 OHM 1/2 W (7.0) 5% TA5
		R612	0RD2700A609	270 OHM 1/2 W (7.0) 5% TA5
		R614	0RN0111H509	1.1 OHM 1/2 W 2.00% TA52
		R615	0RN1202F409	12K 1/6W 1% TA52
		R619	0RN2001F409	2K 1/6W 1% TA52
		R700	971-0016	TIN HDC 0.60H
		R701	0RD6201Q609	6.20K 1/4W(3 5% TA52
		R702	0RD2001Q609	2K 1/4W(3 5% TA52
		R703	0RD1001Q609	1K 1/4W(3 5% TA52
		R704	0RD6202Q609	62K OHM 1/4 W (3.4) 5% TA5
		R705	0RD1203Q609	120K 1/4W(3 5% TA52
		R706	0RD1002Q609	10K 1/4W(3 5% TA52
		R707	0RD1001Q609	1K 1/4W(3 5% TA52
		R708	0RD1102Q609	11K 1/4W(3 5% TA52
⚠		R709	0RN1002F409	10K 1/6W 1 TA52
		R710	0RD1000Q609	100 1/4W(3 5% TA52
		R711	0RD1000Q609	100 1/4W(3 5% TA52
		R712	0RD1501Q609	1.50K 1/4W(3 5% TA52
⚠		R713	0RN7502F409	75000 OHM 1/6 W 1% TA52
⚠		R714	0RN1102F409	11K 1/6W 1% TA52
		R716	0RD1002Q609	10K 1/4W(3 5% TA52
		R717	0RD2701Q609	2.70K 1/4W(3 5% TA52
		R718	0RD0152Q609	15 1/4W(3 5% TA52
⚠		R719	0RD1001Q609	1K 1/4W(3 5% TA52
		R720	0RD3302Q609	33K 1/4W(3 5% TA52
		R721	971-0016	TIN HDC 0.60H
		R722	0RD1001Q609	1K 1/4W(3 5% TA52
		R723	0RD1001Q609	1K 1/4W(3 5% TA52
		R724	0RD1001Q609	1K 1/4W(3 5% TA52
		R726	0RD7502A609	75K OHM 1/2 W (7.0) 5% TA5
		R727	0RX0362K665	36 OHM 2 W 5% SF
		R728	0RD1001Q609	1K 1/4W(3 5% TA52
		R729	0RD1002Q609	10K 1/4W(3 5% TA52
		R731	0RD1002Q609	10K 1/4W(3 5% TA52
		R732	0RD6802Q509	68K OHM 1/4 W (3.4) 2% TA5
		R733	0RD1001Q609	1K 1/4W(3 5% TA52
		R735	0RD1002Q609	10K 1/4W(3 5% TA52
		R736	0RX2201J609	2.2KOHM 1 W 5% TA52
		R737	0RN0560H609	0.56 1/2W 5 TA52
		R738	0RN0560H609	0.56 1/2W 5 TA52
		R740	0RD0271A609	2.7 OHM 1/2 W (7.0) 5% TA5
		R743	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R744	0RD2200A609	220 OHM 1/2 W (7.0) 5% TA5
		R747	0RD3001Q609	3K 1/4W(3 5% TA52
		R748	0RD4702Q609	47K 1/4W(3 5% TA52
		R749	0RD2201Q609	2.20K 1/4W(3 5% TA52
		R750	0RD3001Q609	3K 1/4W(3 5% TA52
		R751	0RD2001Q609	2K 1/4W(3 5% TA52
		R752	0RD2201Q609	2.20K 1/4W(3 5% TA52
		R756	0RD2202A609	22K OHM 1/2 W (7.0) 5% TA5
		R757	0RD3602Q609	36K 1/4W(3 5% TA52
		R758	0RN1303F409	130K 1/6W 1% TA52
		R759	0RD1302Q509	13K OHM 1/4 W (3.4) 2% TA5 **-(CB553H-ML)**
		R759	0RD1202Q509	12K OHM 1/4 W (3.4) 2% TA5 **-(CB553H-AL)**
		R760	0RD5103Q609	510K 1/4W(3 5% TA52
		R761	0RD3001Q609	3K 1/4W(3 5% TA52
		R762	0RD3001Q609	3K 1/4W(3 5% TA52
		R764	971-0016	TIN HDC 0.60H
		R765	0RD3000A609	300 OHM 1/2 W (7.0) 5% TA5
		R766	0RD6800A609	680 OHM 1/2 W (7.0) 5% TA5
		R767	971-0016	TIN HDC 0.60H
		R769	0RD1803Q609	180K 1/4W(3 5% TA52

DATE: 2002. 09. 26.

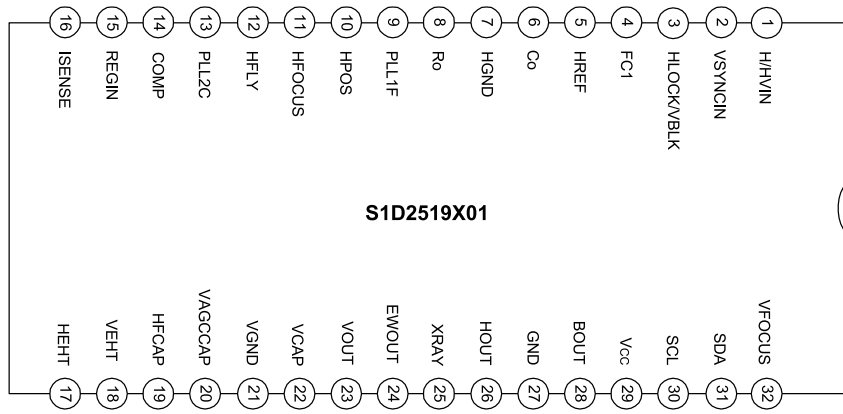
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R771	0RN2001F409	2K 1/6W 1% TA52
		R772	0RN2401F409	2.40K 1/6W 1% TA52
		R773	0RD6202A609	62K OHM 1/2 W (7.0) 5% TA5
		R783	0RD2001Q609	2K 1/4W(3 5% TA52
		R786	0RD4302Q609	43K 1/4W(3 5% TA52
		R789	0RD1201Q609	1.20K 1/4W(3 5% TA52
		R793	0RD4702Q609	47K 1/4W(3 5% TA52
		R797	0RD1501Q609	1.50K 1/4W(3 5% TA52 **-(CB553H-ML)**
		R798	0RD2001Q609	2K 1/4W(3 5% TA52
		R799	0RD7501Q609	7.50K 1/4W(3 5% TA52
		R801	0RD4702Q609	47K 1/4W(3 5% TA52
		R802	0RD1502Q609	15K 1/4W(3 5% TA52
		R803	0RD2001Q609	2K 1/4W(3 5% TA52
		R808	971-0016	TIN HDC 0.60H
		R809	0RX0101K665	1 OHM 2 W 5% SF
		R813	0RD6802Q609	68K 1/4W(3 5% TA52
		R814	0RD1202Q609	12K 1/4W(3 5% TA52
⚠		R816	0RN3301F409	3.30K 1/6W 1% TA52
⚠		R818	0RN6202F409	62KOHM 1/6 W 1% TA52
		R901	0RD4703A609	470K OHM 1/2 W (7.0) 5% TA
		R902	0RD0511Q609	5.1 OHM 1/4 W (3.4) 5% TA5
		R904	0RX3902K665	39K OHM 2 W 5% SF
		R906	0RD6200Q609	620 1/4W(3 5% TA52
		R908	971-0016	TIN HDC 0.60H
		R910	0RX4702J609	47K OHM 1 W 5% TA52
		R911	971-0016	TIN HDC 0.60H
⚠		R912	0RD1802Q609	18K 1/4W(3 5% TA52
⚠		R913	0RD2201Q609	2.20K 1/4W(3 5% TA52
		R915	0RD1000Q609	100 1/4W(3 5% TA52
		R916	0RD1002Q609	10K 1/4W(3 5% TA52
		R918	0RD1001Q609	1K 1/4W(3 5% TA52
		R923	0RD1003Q609	100K 1/4W(3 5% TA52
		R925	0RB0220K607	0.22 2 W 5% TA62
		R926	0RD4301Q609	4.30K 1/4W(3 5% TA52
		R927	0RD2002Q609	20K 1/4W(3 5% TA52
		R928	0RD1800Q609	180 1/4W(3 5% TA52
		R929	0RD0332Q609	33 1/4W(3 5% TA52
		R941	971-0016	TIN HDC 0.60H
		R944	0RD4700A609	470 OHM 1/2 W (7.0) 5% TA5
		R945	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R951	0RN0560H609	0.56 1/2W 5 TA52
		R952	0RD1202A609	12K OHM 1/2 W(7.0) 5.00% T
		R953	0RD1001A609	1K OHM 1/2 W (7.0) 5% TA52
		R954	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R955	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R956	0RD6802A609	68K OHM 1/2 W (7.0) 5% TA5
		R957	0RD0472Q609	47 1/4W(3 5% TA52
		R960	0RD6200A609	620 OHM 1/2 W(7.0) 5.00% T
		R971	0RD0102A609	10 OHM 1/2 W (7.0) 5% TA52

OTHERs

		F1	430-858C	AFC-520 BAE EUN TA
		F2	430-858C	AFC-520 BAE EUN TA
		F901	0FZZTTH003B	TIME LAG HBC 5A/250V 18115
		J302	0RD0471Q609	4.70 1/4W(3 5% TA52
		RL901	6920TBA003A	36F-012-HST HONGMEI 250VAC
		RL901	6920TBA003A	36F-012-HST HONGMEI 250VAC
		SC301	6620TBC003A	GZS10-2-103 DUOLING(SANLIN
		SC901	6620TKB002D	CDJ-3C DUOLING AC UNIVERSA
		SC901	6620TKB002D	CDJ-3C DUOLING AC UNIVERSA
		SG305	6918TRT005A	SSG-102-A0,1KV SMART RADIA
		SW1	6600TR1001B	HUA JIE NON 12V VERTICAL 1

DATE: 2002. 09. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		SW2	6600TR1001B	HUA JIE NON 12V VERTICAL 1
		SW3	6600TR1001B	HUA JIE NON 12V VERTICAL 1
		SW4	6600TR1001B	HUA JIE NON 12V VERTICAL 1
		SW5	6600TR1001B	HUA JIE NON 12V VERTICAL 1
		T2	5240T0B002A	W-T 480MM UL1007 AWG 24 **-(CB553H-ML)**
		T3	5240T0B002A	W-T 480MM UL1007 AWG 24 **-(CB553H-ML)**
⚠		T701	6174Z-1035G	FMMTC81 AM1035G (LIM SANG
		T703	6170TCZ001D	EI2218 4.0MH H-DRIVE,EB770
		T901	6170TMZ140A	EER3541 240UH V-16PIN CB55
		TH901	6322B00002B	MZ72-9RM290V GAOLI 9OHM 20
		TH902	6322TA080BA	SCK-084 THINKING 8 ohm 15%
		VR901	180-035G	EVN-DJAA03B13 (MEC),1KB
		X401	6212AA2003A	HC-49U SOUTH STAR 12MHZ +/
		X401	6212AA2003A	HC-49U SOUTH STAR 12MHZ +/



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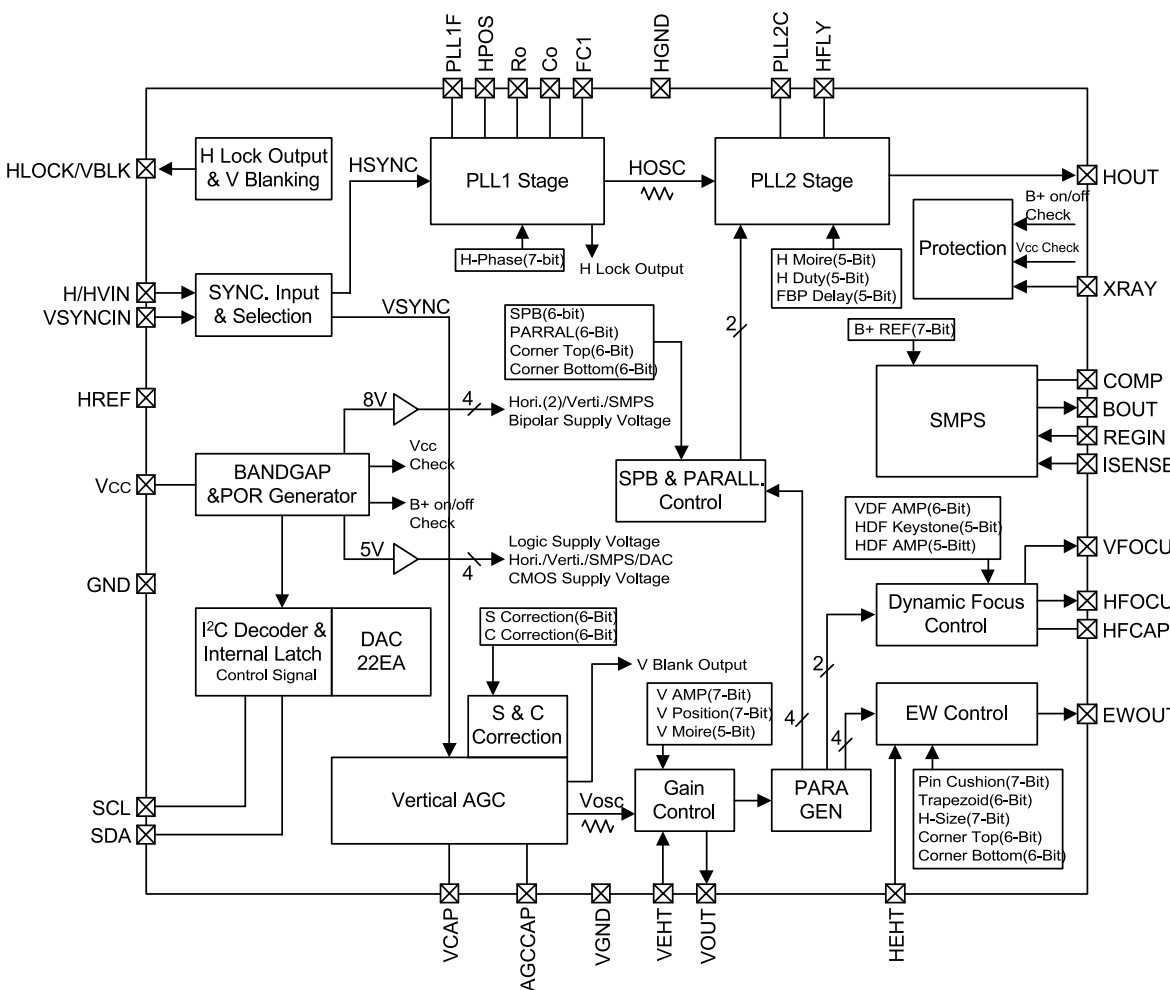
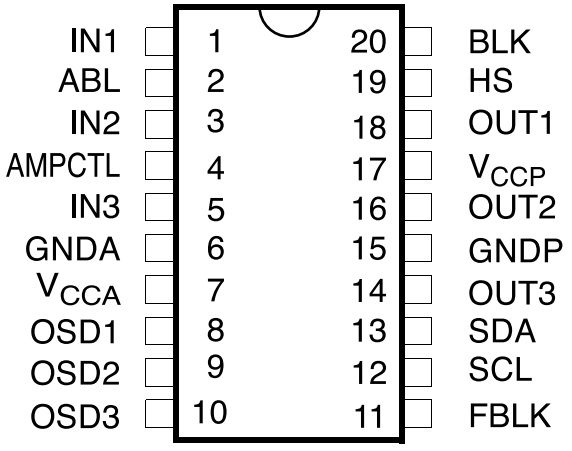


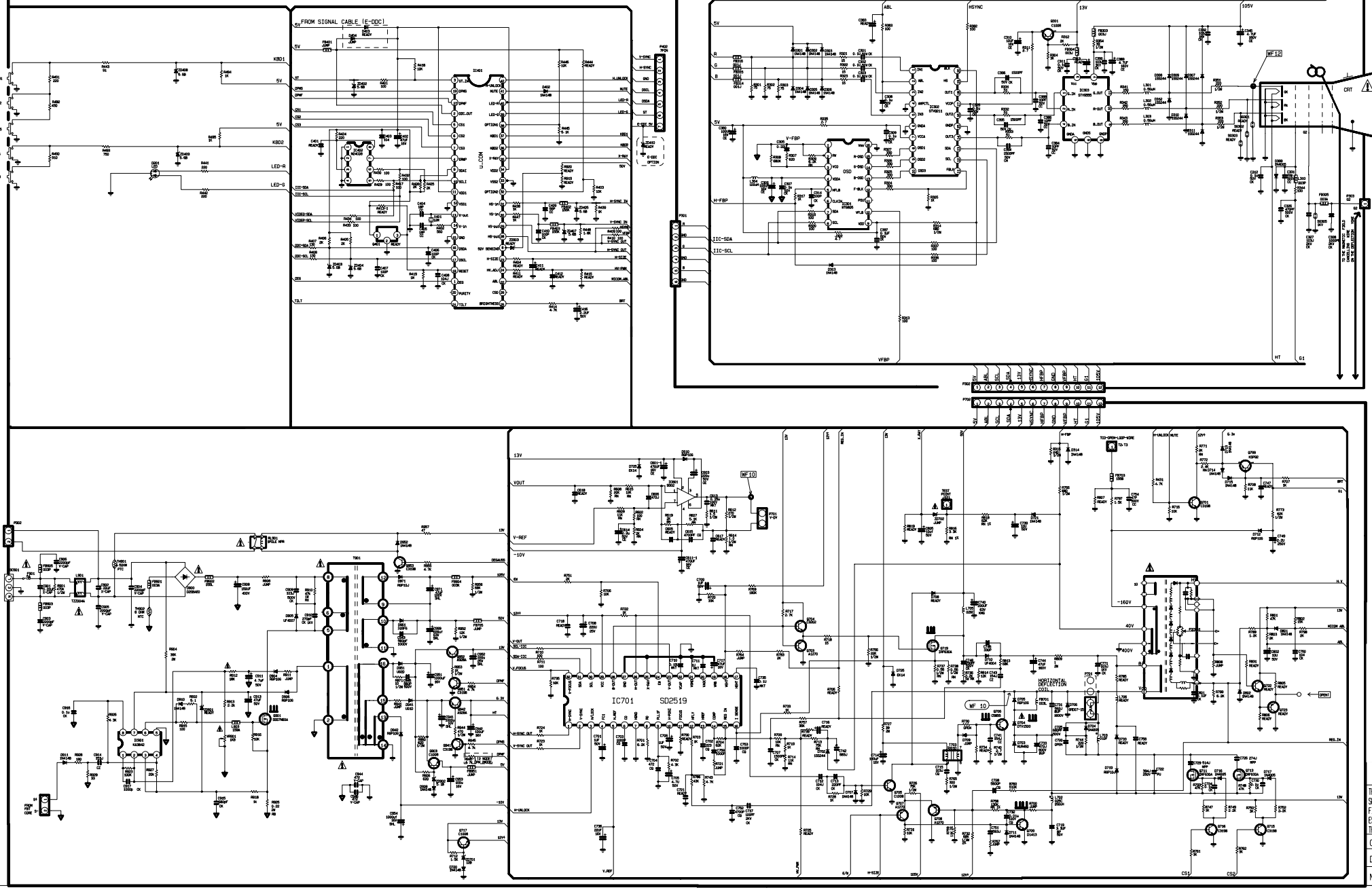
Pin Configuration



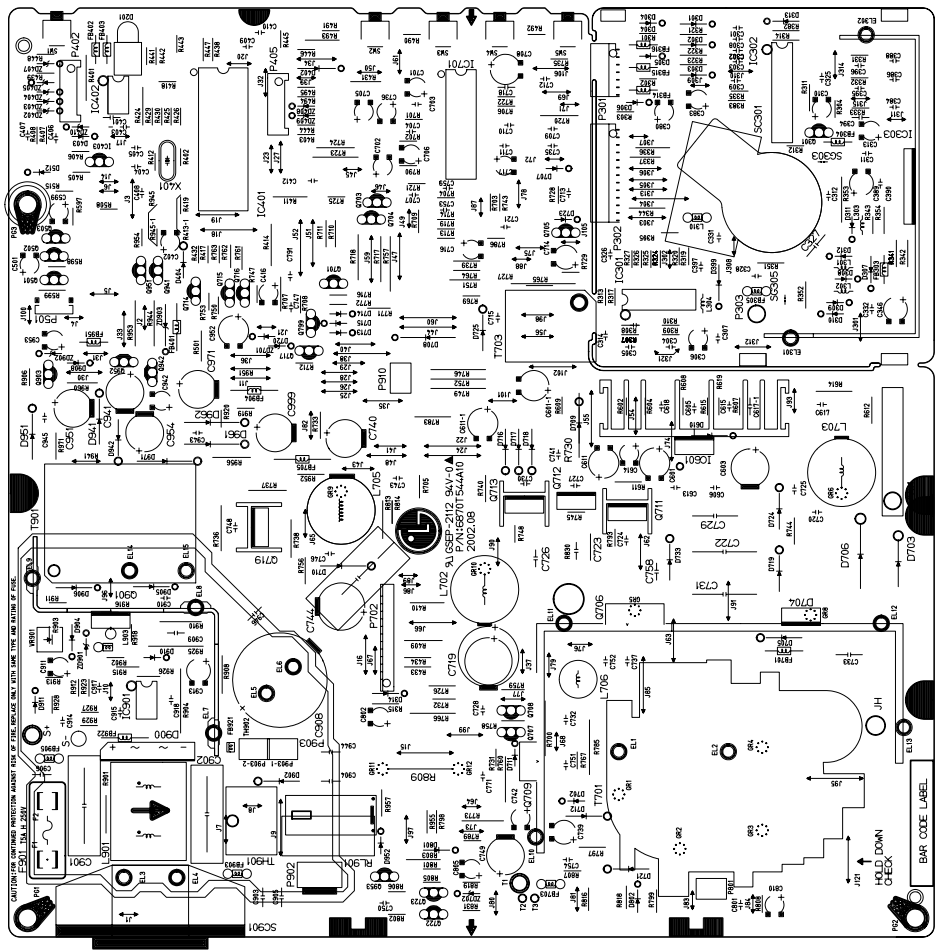
Pin Description

Pin number	symbol	description
1	IN1	Video input (channel 1, red)
2	ABL	ABL input
3	IN2	Video input (channel 2, green)
4	AMPCTL	Amplifier control (bandwidth and stand-by). Only applicable with amplifiers with the CTL or STDBY pins. To be connected to ground if not used.
5	IN3	Video input (channel 3, blue)
6	GNDA	Analog ground
7	V_{CCA}	Analog supply (5V)
8	OSD1	OSD input (channel 1, red)
9	OSD2	OSD input (channel 2, green)
10	OSD3	OSD input (channel 3, blue)
11	FBLK	Fast blanking
12	SCL	SCL
13	SDA	SDA
14	OUT3	Video output (channel 3, blue)
15	GNDP	Power ground
16	OUT2	Video output (channel 2, green)
17	V_{CCP}	Output stage supply (5 V to 8 V)
18	OUT1	Video output (channel 1, red)
19	HS	Horizontal synchro or BPCP pulse
20	BLK	Blanking input

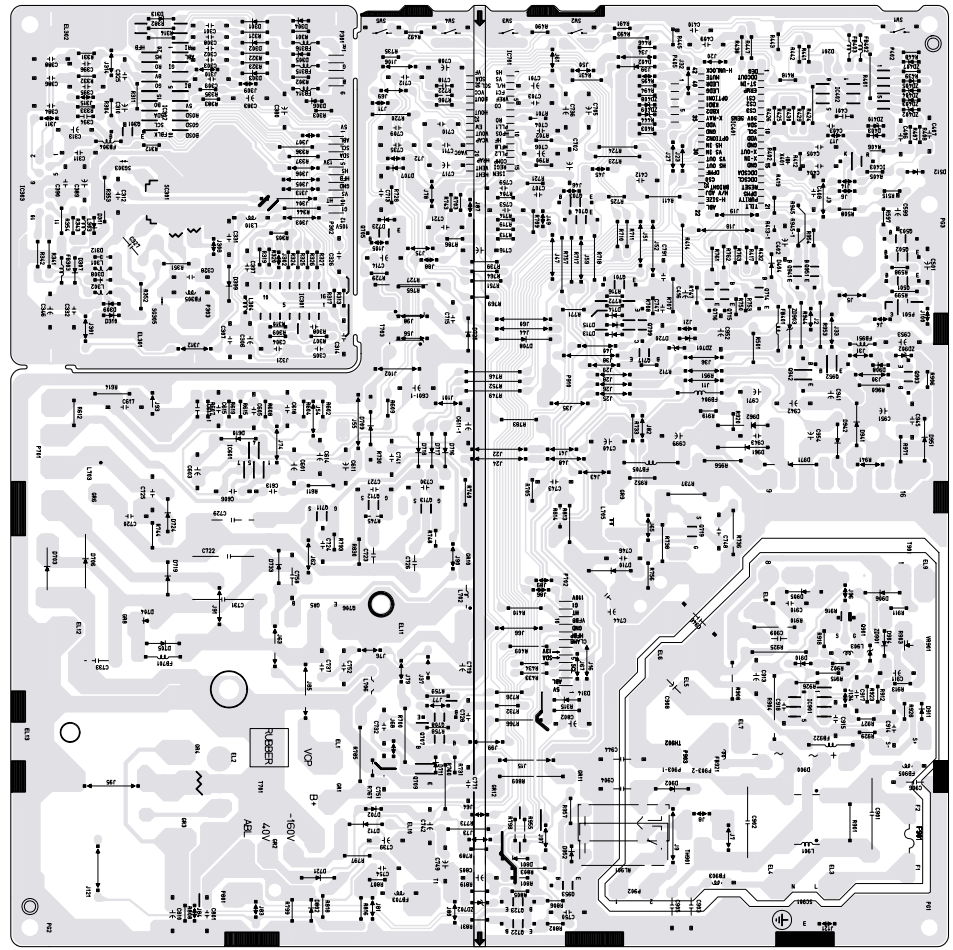
SCHEMATIC DIAGRAM(SAMSUNG IC701)

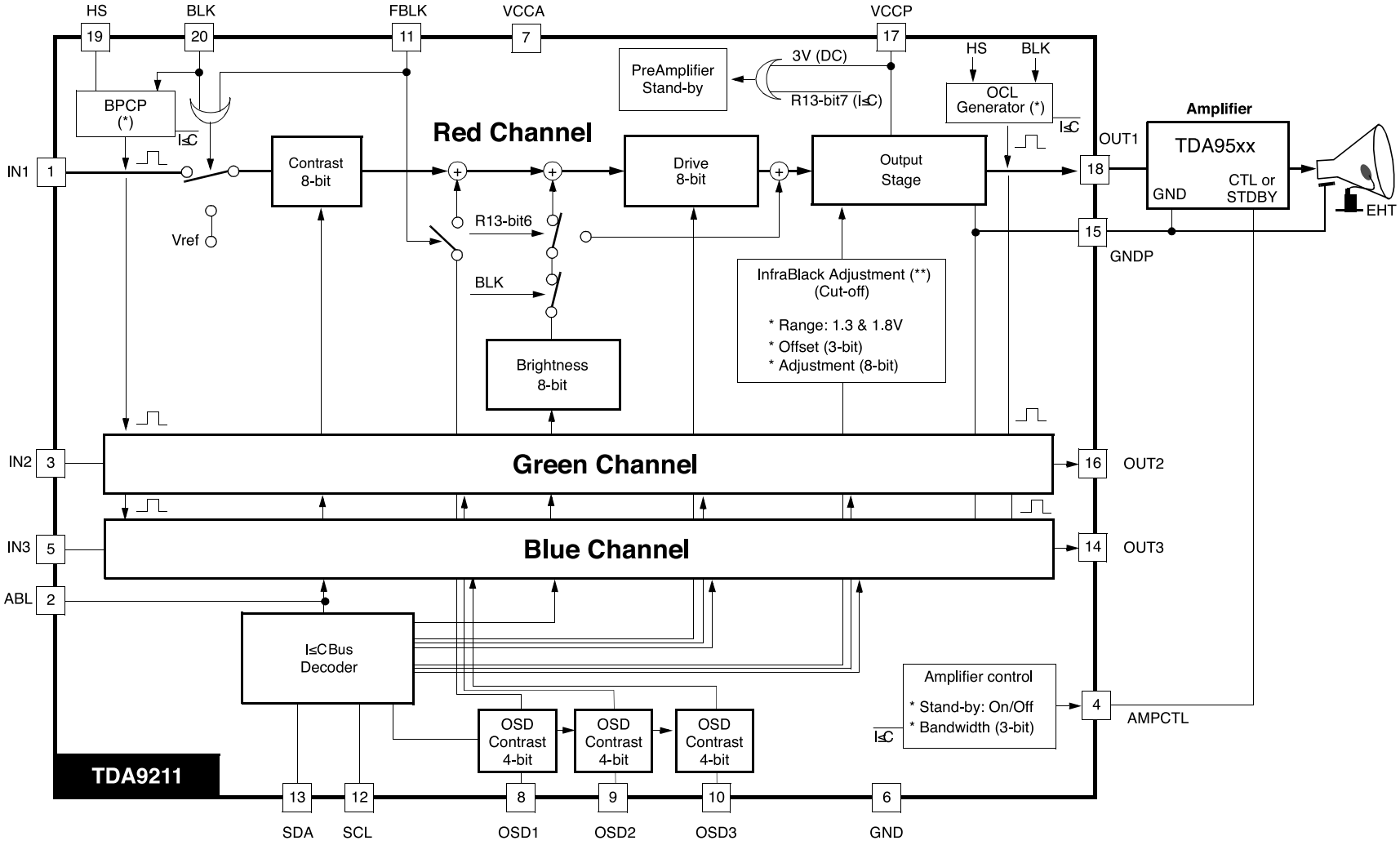


1. MAIN BOARD (Component Side)



2. MAIN BOARD (Solder Side)





(*) See RGB input section for complete BPCP and OCL description

(**) See Cut-off adjustment section for complete Cut-off register description